

001 P

**MORPHOLOGICAL TYPES OF PERI-AMPULLARY TUMOUR AT DIFFERENT DIAGNOSTIC MODALITIES AND ITS OUTCOME****M.ATTAULLAH KHAN, IRFAN-UL-ISLAM NASIR, M. SHADAB KHAN, M. ASIF NOOR, ABDUL WAHID ANWAR, FAISAL HANIF  
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**Background:** Peri-ampullary tumour is a collective term used for different tumours at and around the ampulla of Vater. Sometime it is pretty confusing with pancreatic head tumour and a clear diagnosis is difficult at different imaging modalities.

**Objective:** The aim of this study is to describe the morphology of different peri-ampullary tumours on different imaging modalities and to know its survival.

**Methodology:** Record of 48 patients was retrieved who underwent pancreatoduodenectomy in Shaukat Khanum hospital for different tumours of the ampullary region, from Jan 2012 till March 2017. Data was collected regarding patient and tumour characteristics on different imaging modalities and their survival. All the data was analysed in SPSS 20.

**Results:** There were 43.5% male and 26.1% females, with mean age of 53. On Tri-phasic CT with liver protocols the most common findings were no mass (29%), followed by pancreatic head mass (18.8%) while on endoscopic ultrasound the most common findings were pancreatic head tumour (34.8%) and peri-ampullary (8.7%). On histopathology the most common tumour site was peri-ampullary (30.4%) and ampullary region tumours (18.8%). Most common tumour stage at EUS was T2N0 (21.7%) while on histopathology the most common tumour stage was T3N1 (31.9%). Most favourable survival was for ampullary cancer with average 637 days and the worst for pancreatic cancer with average survival of 249 days. Recurrence was most common in pancreatic (51%) followed by periampullary cancer patients (39%).

**Conclusion:** CT scan and EUS has limited sensitivity in terms of exact localization of different tumours at ampullary region which has prognostic implications as morphologically different tumours around the ampullary region has a significant difference in terms of survival and recurrence.

## 002 P

**A REVIEW OF MANAGEMENT OF SUPERIOR MESENTERIC ARTERY SYNDROME AT TERTIARY CARE HOSPITAL****AMYNA SHOUKAT ALI JIWANI****DEPARTMENT OF SURGERY, AGA KHAN UNIVERSITY HOSPITAL, KARACHI, PAKISTAN**

**Objective:** Till date many researchers have doubted the existence of superior mesenteric artery syndrome as a real entity; it is believed that SMA syndrome is over diagnosed because it is confused with other causes of mega duodenum. Nonetheless, the entity is a well-known complication of scoliosis surgery, anorexia, and trauma. It often poses a diagnostic dilemma; its diagnosis is frequently one of exclusion. Therefore, this study is being done to explore different options for the management of SMA syndrome and to evaluate its effectiveness.

**Material and methods:** This is case series of 9 cases conducted at AKUH from January 2007 to December 2015, study was analysed in SPSS version 21; these were then grouped in surgical and non-surgically managed patients. Categorical variables were calculated as percentages, continuous variables were calculated as mean and SD, p value of <0.005 was considered significant.

**Results:** Overall 9 patients presented to our hospital with the mean age of 27.5 years and a mean BMI of 17.3. 7 patients were males while 2 were females. 4 of them were managed conservatively while 5 underwent surgery. Presenting symptoms remained largely the same with abdominal pain and vomiting being the primary complains. Mean CT aortomesenteric angle was 13.53 and mean aortomesenteric distance was 9.75m. Mean Length of stay was 9 days. Mean weight gain after conservative management was 8.6kgs while in the surgical patients was 11.6kgs. There were 2 mortalities, one from each group. Overall there were no statistically significant different outcomes between the two groups.

**Conclusion:** The diagnosis of duodenal obstruction is made with CT scan with oral contrast and may demonstrate dilatation of the proximal duodenum with failure of contrast passage beyond the third part of the duodenum with a cut off. Fluid resuscitation, bowel rest, TPN, and enteric feeding with a nasojejunal tube inserted past the obstruction is the conservative way to go about it. While surgical options include gastrojejunostomy, duodenojejunostomy and strong procedure. In children and in adults with a short history, conservative approach may have a reasonable prospect of success, but in the chronic adult patient, it is often a prolonged in-hospital therapy with a low success rate.

**003 P****RISK OF SURGICAL SITE INFECTION IN PATIENTS HAVING POST-OPERATIVE HYPERGLYCEMIA AS COMPARED TO POST-OPERATIVE NORMOGLYCEMIC PATIENTS UNDERGOING ABDOMINAL SURGERY****AMYNA SHOUKAT ALI JIWANI****DEPARTMENT OF SURGERY, AGA KHAN UNIVERSITY HOSPITAL, KARACHI, PAKISTAN**

Surgical site infection is one of the common complications after major surgery. Several risk factors have been studied in detail and among them; post-operative hyperglycaemia is one of the independent risk factor. As there is no local data available, so we decided to do the study with following objective:

**Objectives:** To estimate risk of surgical site infection in patients who had post-operative hyperglycaemia as compared to those who had optimum post-operative glycaemic control after abdominal surgery.

**Materials and methods:** This is the prospective cohort study conducted at Aga Khan University Hospital. This included patients who underwent Exploratory Laparotomy (Complying the inclusion criteria) from Feb 1, 2016 till August 31, 2016 and those who underwent Emergency Laparotomy were excluded. A designed performa was made to collect the data. Sample size was calculated via WHO software and it turned out to be 66 in each group. Both the groups (with post-operative normoglycemia and hyperglycemia) were compared. SPSS v 20 was used for data entry and analysis.

**Results:** Multiple variables were studied in this study but only ASA level has statistically significant association with post-operative SSI.

**Conclusion:** ASA level is an independent risk factor for SSI in post-operative period and no statistically significant association is established between deranged reflos and SSI.

**004 P****CHONDROSARCOMA: A REVIEW ON DIFFERENT MANAGEMENT OPTIONS, THE OUTCOMES AND THE FREQUENCY OF RECURRENCES****KIRAN ABBAS, AMBER TAHIR SIDDIQUI****1 JINNAH SINDH MEDICAL UNIVERSITY, 2 DOW UNIVERSITY OF HEALTH SCIENCES, KARACHI, PAKISTAN**

Chondrosarcoma is a rare malignant tumour of the cartilage that comprises of about 30% of all bone tumours. It usually affects older adults of age 35-40. It is a slow-growing tumour which gives the doctors ample amount of time to come up with an effective course of treatment. Prognosis of chondrosarcoma depends on the grading, size and the location of the tumour. According to WHO, survival rate for patients with Grade 1 chondrosarcoma is 89%. The combined group of patients with grade 2 and 3 has a five-year survival of 53%.

The review aims to analyse the different management options adopted by the surgeons globally and the different outcomes/prognosis they yielded. It also aims to assess the frequency of local recurrence and treatment measures adapted by surgeons to reduce recurrence in their patients.

## 005 P

### LASER INTERSTIAL THERMAL THERAPY FOR BRAIN TUMOURS

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#### **Laser Interstitial Thermal Therapy for Brain Tumors**

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*Background:* Laser thermal interstitial ablation (LTIA) is tissue destruction by elevation to lethal temperatures. This treatment was developed in the last decade and the Food and Drug Administration cleared it for neurosurgical and other surgical procedures a few years ago. This is a major advance in the treatment of deep-seated brain tumors.

*Methods:* The procedure is done using intraoperative magnetic resonance imaging (MRI). The lesion is localized with MRI-guided stereotaxis. Initially a biopsy is performed and then laser is placed to target the lesion. The temperature is raised to 55.0 °C to destroy the tissue. We have treated 39 lesions in 33 patients to date, including 15 glioblastomas, 12 gliomas, 10 metastases, 8 radiation necroses and 2 meningiomas.

*Results:* The median follow-up period was 64 days (1-343 days) and initial results show effective eradication of lesions. There were 2 postoperative deaths, 2 infections and 5 new neurological deficits, 3 of which were temporary. Median inpatient length of stay of patients was 23 hours.

*Conclusion:* LTIA is a new technique for treating lesions for a variety of intracranial pathologies including primary and metastatic brain tumors, radiation necrosis and epilepsy. More than 1000 procedures have been performed in the US and treatment is safe.

Although initial results show great promise for treatment of deep-seated lesions, further data is needed to assess its efficacy compared to other techniques.

## 006 P

**COMPARISON OF TOUCH PREPARATION CYTOLOGY AND FROZEN SECTION FOR INTRAOPERATIVE DIAGNOSIS OF SENTINAL LYMPH NODE METASTASES IN BREAST CANCER:****SAMREEN NAZ, <sup>2</sup>ANWAR KAMAL, <sup>3</sup>HUMAIRA ERUM, <sup>4</sup>ATIF ALI HASHMI, <sup>5</sup>NAVEEN FARIDI****DEPARTMENT OF HISTOPATHOLOGY AND CYTOLOGY, LIAQUAT NATIONAL HOSPITAL AND MEDICAL COLLEGE, KARACHI.**

**Introduction:** Accurate analysis of Touch Preparation (TP) Cytology for intraoperative diagnosis of sentinel lymph node (SLN) Metastases can avoid unnecessary axillary lymph node dissection.

Frozen Section is the most popular method for intraoperative SLN diagnosis. Touch preparation Cytology has also been suggested as less expensive and rapid diagnostic tool. Moreover it provides clear cytologic details and allows examination of multiple cut surfaces at one time and preserving the tissue for permanent paraffin sectioning.

**Objective:** The aim of this study is to compare the accuracy of Touch Preparation Cytology and Frozen Section for the intraoperative diagnosis of Sentinel Lymph node Metastases in breast cancer.

**Material & methods:** A prospective study is performed during September 2016 - May 2017 in Department of Histopathology and Cytology, Liaquat National Hospital and Medical College Karachi. 114 patients were included who underwent Sentinel LN dissection. All SLNs were sectioned at 2mm intervals. TP were made from all cut surfaces after which all sections were examined for frozen sections. Results of both Touch Preparation Cytology and Frozen Section were compared with final paraffin diagnosis.

**Results:** In a total of 114 patients, the mean age was 53 years, age range (25-83) and the mean size of SLN was 0.4 cm, size range (0-4) cm. The sensitivity, specificity and accuracy were 83.7%, 98.5% and 92.1%, respectively, for TP and 93.9%, 100% and 97.3% for FS.

**Conclusion:** Intraoperative Touch Preparation Cytology is a useful method for evaluating axillary lymph node metastases in patients with breast cancer. Touch preparation cytology is marginally less sensitive but it is more cost effective and rapid diagnostic method than Frozen Section diagnosis. Hence, Touch Preparation Cytology can be used as alternative where frozen section facility is not available.

## 007 P

**TREATMENT OF BREAST DUCTAL CARCINOMA IN SITU (DCIS) AS A RARE ENTITY IN AN UNSCREENED POPULATION IN A DEVELOPING COUNTRY****MARIAM BAIG, SADAF BATOOL, SANA AMIR AKBAR, MOHAMMAD ZULQARNAIN CHAUDHRY, AMINA IQBAL KHAN, MUHAMMAD ASAD PARVAIZ****DEPARTMENT OF BREAST SURGERY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL & RC, LAHORE, PAKISTAN**

**Aim:** Incidence of ductal carcinoma in situ (DCIS) in breast has been reported very low in Pakistan due to absence of population based screening programme. This study is aimed at evaluating the surgical treatment options for DCIS, in a developing country so that best surgical option can be proposed for future management.

**Methods:** Patients diagnosed with pure DCIS of breast without invasive cancer on needle core or excision biopsy between year 2000 and 2011 in our hospital were included in this study from a prospectively maintained computerized database. Patients were evaluated for tumour size, resection margins, nodal disease, receptor status and nuclear grade. Disease free survival (DFS) and overall survival (OS) was measured in all patients. Statistical analysis was performed for categorical and numerical variables using chi square test and Mann-Whitney U test respectively.

**Results:** During 11 years, 8269 breast cancer patients were registered, 94 patients (1.1%) were identified with pure DCIS. 73 patients with DCIS diagnosed and treated at our hospital were included. Median age was 48 years (40 – 57). Breast conserving surgery (BCS) was performed in 42% (n=31) and mastectomy in 58% (n=42). Median tumour size was 12.5mm (1 to 60mm) in mastectomy group and 5mm (0.6 to 55mm) in BCS group. Sentinel lymph node biopsy was positive in 2 patients undergoing BCS and 5 patients undergoing mastectomy. Invasive component was found in 0.06% (n=2) patients in BCS group and 0.14% (n=6) patients in mastectomy group. In BCS group 0.32% (n=10) patients had high nuclear grade DCIS as compared to 0.4% (n=17) in mastectomy group. Patients were followed for 5 years with OS of 96% and no statistically significant difference in terms of DFS (p=0.862) and OS (p=0.082) was observed in both groups.

**Conclusion:** Pure DCIS of breast remains a rare condition in Pakistan due to lack of population-based screening programme. DCIS is mainly identified in symptomatic patients. In our study, it is safely concluded that relatively smaller size DCIS even with high nuclear grade, can be successfully treated with BCS. Mastectomy remains the standard of choice for larger size DCIS. Further studies are needed to determine the long term clinical outcome of DCIS in our country.

008 P

## OPTIONS FOR PERINEAL DEFECT CLOSURE FOLLOWING EXTRALEVATOR ABDOMINOPERINEAL EXCISION IN RESOURCE-LIMITED SETTING

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**Objectives:** Extralevator AbdominoPerineal Excision (ELAPE) provides a suitable management option for locally advanced rectal cancer involving the sphincters. The perineal defect resulting from a wider resection at the level of levator muscle remains a challenge for the surgeon to manage. Biological mesh or a flap closure of these defects may not be readily available in resource-limited settings. We report our experience in management of the perineal wound defect following ELAPE at a specialist cancer hospital.

**Methods:** Patients undergoing ELAPE between October 2014 and July 2017 were included. Clinical details, operative data and postoperative outcomes were retrieved from case records. Management of the perineal defect and perineal wound infection as outcome was recorded.

**Results:** A total of 76 patients underwent ELAPE during the study period. The median age was 42 years (IQR 31-52). Median duration of surgery was 310 minutes (IQR 283-360). Median blood loss was 62.5 ml (IQR 50-150). Median circumferential resection margin was 5 mm (IQR 2.0 – 11.5). The perineal defect was closed in 58 patients (76.3%) using omentoplasty. One patient had the defect closed by gracilis muscle rotational flap. Non-biological mesh was used in 28 patients (36.8%). Dual mesh was used in one patient, while in the remaining patients polypropylene or composite mesh containing polypropylene were used. Perineal wound healed well in 45 patients (60.8%) while 19 patients (25.7%) required wound opening and care with dressing. Re-exploration of perineal wound was required in 4 patients (5.4%). Median hospital stay was 6 days (IQR 5-7).

**Conclusion:** Non-biological mesh is a good alternate option for perineal wound closure in ELAPE in limited resource settings. Omentoplasty can be safely performed with overlying placement of synthetic mesh for closure of perineal defect in ELAPE. This avoids the use of expensive biological mesh or plastic surgery for closure of defect.

009 P

## PARAGANGLIOMA OF COMMON BILE DUCT: A RARE CASE REPORT

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**Background:** Paragangliomas are rare extra adrenal neoplasms of neural crest origin. Sympathetic paraganglioma usually secrete catecholamine and are located in sympathetic paravertebral ganglia of thorax, abdomen and pelvis. Parasympathetic paraganglioma are chromogranin negative and nonfunctional and located around glossopharyngeal and vagus nerve. If tumour is resectable, then resection should be done completely followed by surveillance. If tumour is unresectable we have option of radiation therapy along with medical therapy (cisplatin, vincristine and dacarbazine) or temozolomide for secreting tumours. In our review of literature we find few case reports of paraganglioma of common bile duct (CBD).

**Case Presentation:** A 56 year-old-woman presented with complains of weight loss, yellow discoloration of eyes and pale coloured stools. She had no symptoms of headache, palpitation or family history of any malignancy. Her baseline investigations were normal however her LFT's were deranged with a total bilirubin of 17.7mg/dl, with a direct bilirubin of 16.2mg/dl. Her viral markers were normal. A CT scan of abdomen revealed a mass at porta hepatis. A MRI cholangiogram revealed 32x22 mm well rounded mass at porta hepatis causing compression over proximal bile duct resulting in moderate intrahepatic biliary dilation. She underwent radical bile duct dissection, lymphadenectomy and hepatic jejunostomy. There was a well circumscribed lesion in wall of CBD measuring 3.5 x 3 x 2.5cm with resection margins that were tumour free. A panel of immunohistochemical staining was performed which were positive for cytokeratin AE1/AE3, GATA 3 synaptophysin with perineural invasion and negative for chromogranin A, S 100, calcitonin and TTF1. Morphological and immunohistochemical markers were suggestive of paraganglioma of CBD. The adjacent lymph nodes, cystic duct, proximal and distal CBD were tumour free. Postoperatively patient was kept on surveillance with follow up 3 to 12 monthly post resection for history and physical examination, blood pressure monitoring and with tumour markers (chromogranin A, 24 hour urinary metanephrines or free plasma metanephrines).

**Conclusion:** This is a rare clinical presentation of paraganglioma, as our patient did not have symptoms of catecholamine excess and presented only with obstructive jaundice that can mimic features of cholangiocarcinoma.

**010 P****AN INTERESTING & RARE CASE OF TRAUMATIC ESOPHAGO-CUTANEOUS FISTULA****ANAM FATIMA, AWAIS AMJAD MALIK, MUHAMMAD FAROOQ AFZAL****SURGICAL UNIT-I, LAHORE GENERAL HOSPITAL, LAHORE**

**Introduction:** Esophago -Cutaneous fistula is a very rare disease and the reported cases are mostly secondary to tuberculosis (a total of five cases reported so far), anterior cervical spine injury and post thyroidectomy. Traumatic cases are almost zero to none. However in this case report we present a very unique presentation of this rare disease.

**Case:** 25 year old nursing student with history of trauma to neck initially diagnosed to have supra-sternal abscess. Post Incision & drainage of this abscess, she developed discharge of water & food particles from the wound site. It was investigated and diagnosed as esophago-cutaneous fistula on the basis of sinogram & endoscopic examination. Her neck exploration was done and fistulous tract was found communicating with the upper mid esophagus. Tract was excised and sent for biopsy. Histopathology revealed non-caseating granulomas with no evidence of malignancy. A gene X-pert was done to rule out tuberculosis and it came out to be negative. Post operatively patient is living a normal life.

**Conclusion:** In our case no definite cause of esophago-cutaneous fistula was found out although there was a strong association with trauma. In a developing country like Pakistan there should always be a suspicion of tuberculosis until proven otherwise. However in our case there was no TB contact history or symptoms of the disease. Gene xpert also came out to be negative.

**Key Words:** Traumatic, Esophago-Cutaneous, Fistula.

## 011 P

## IDIOPATHIC DIFFUSE PORTO-MESENTERIC VENOUS THROMBOSIS - A REVIEW

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**Objective:** Idiopathic diffuse porto-mesenteric venous thrombosis (IDPMVT) occurs in the absence of liver cirrhosis, hepatobiliary malignancies and myeloproliferative disorders and presents a challenge to treating clinician. In this article we review the literature regarding IDPMVT and propose an algorithm for its workup and management. This approach will help streamline treatment for patients with this uncommon problem.

**Methods:** With the help of PubMed and Google Scholar Medline search was performed. Search results and related articles were reviewed and cases of IDPMVT identified. Complete clinical summary, clinical presentation, congenital or acquired risk factors of thromboembolic disease, extent of thrombosis in portal & mesenteric veins and management of these patients was retrieved. We also reviewed the literature regarding the available management options for IDPMVT

**Results:** We identified no more than 7 reported cases of IDPMVT in the published literature; in addition to this we report one case of IPDMVT at our institution. IDPMVT is generally secondary to hypercoagulable states but in the 4 cases of the total 8 cases identified no specific cause of thrombosis was found. In 3 patients prothrombotic disorder was the underlying cause whereas in one patient IPDMVT occurred secondary to neuroendocrine tumour. Clinical presentation of IDPMVT varies between features of acute and chronic thrombosis, CT scan was the diagnostic investigation of choice. Management of IPDMVT primarily depends upon the clinical presentation, 2 patients presented with ischemia of bowel were initially managed by laprotomy and gut resection but ultimately required MVT for life threatening hemorrhage. 5 patients presented with variceal hemorrhage, 2 underwent multivisceral transplant (MVT) whereas shunt procedure was performed in 3 patients and out of these 3, MVT was required in 2 patients for recurrent hemorrhage. 1 patient presented with portal biliopathy was managed with ERCP, stenting and anticoagulation

**Conclusion:** In patients presenting with diffuse thrombosis and large venous collaterals, Non anatomic shunts can be a treatment of choice while in patients with no accessible collaterals in the presence of diffuse venous thrombosis, Multivisceral transplant remains the solitary option.

**012 P****PRE AND POSTOPERATIVE CEA LEVEL IS A PREDICTOR OF RECURRENCE FOR PATIENTS AFTER RESECTION OF COLORECTAL LIVER METASTASIS.****SHADAB KHAN, M. ATTAULLAH, FAISAL HANIF****DEPARTMENT OF SURGICAL ONCOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE. PAKISTAN**

**Introduction:** Serum Carcinoembryonic antigen levels is a common test obtained in the course of treatment of patients with colorectal cancer and its prognostic significance is well accepted Pre and postoperative CEA levels serves to monitor the response to treatment in patients undergoing regional or systemic chemotherapy not only in colorectal but also in lung and breast cancers. In the patients who undergo hepatic resection for colorectal metastasis it is still controversial whether pre and postoperative CEA levels are of prognostic value in regard to resectability.

**Objective:** The purpose of this study is to evaluate the prognostic significance of pre and postoperative CEA levels in hepatic resection for colorectal metastasis.

**Method:** A retrospective review was made from case notes of patients presenting with liver metastasis secondary to colorectal carcinoma admitted in the department of surgical oncology SKMCH & RC Lahore over last ten years (Jan. 2007 till August. 2017). Clinical data of all patients including age, gender, clinical presentation, clinical and pathological TNM stage of primary tumour, neoadjuvant chemoXRT, primary surgery, primary adjuvant chemotherapy, time of occurrence of liver metastasis, number of liver lesions, size of largest liver lesion, pre and postoperative CEA levels for liver resection, chemotherapy after liver resection, local and distant tumour recurrence after metastatic liver resection, disease free survival and overall survival was analysed using SPSS version 23.

**Results:** Total 678 patients presented with colorectal carcinoma in last ten years out of which 40 patients (5.8%) had liver metastasis and 10 of them had resectable metastatic lesions. Out of those 10 patients 4 were male and 6 were female. Age ranges from 28 to 76 years. Four patients presented with colonic cancer and 6 had rectal cancer. On initial presentation one patient had stage 2 disease and 9 of them had stage 3 disease. Five patients received neoadjuvant chemoXRT and five had upfront surgery. Three patients had right hemi colectomy, one had sigmoid colectomy, four had low anterior resection, one had anterior resection and Hartman procedure each. On histopathology one had stage 2 and 9 had stage 3 disease. None of them had positive resection margins. Five patients had positive lymph nodes on histopathology. Nine patients received adjuvant chemotherapy after primary surgery. All patients had raised CEA levels on follow up after primary surgery and work up showed liver lesions, one lesion in 7 patients and 2 lesions in 3 patients. After liver resection five patients received chemotherapy. Follow up CEA levels reduced to normal values in 8 out of 10 patients. On follow up surveillance 7 patients alive and without disease, 2 patients alive with disease recurrence and one patient died.

**Conclusion:** Pre and postoperative CEA levels is a prognostic indicator of the recurrence in colorectal carcinoma patients who present with liver metastasis. Follow up CEA levels are the independent predictor for disease free survival and overall survival in these patients.

013 P

## A CLINICAL STUDY AND TREATMENT RESULTS OF ADRENOCORTICAL CARCINOMA PATIENTS PRESENTED IN SKMCH&RC

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**Objective:** This study was aimed at analysing the clinical out come and treatment results of patients with adrenocortical carcinoma and to point out the factors associated with long term survival after resection.

**Introduction:** Adrenocortical cancer is a rare tumour with an incidence of 0.5-2 per million per year.<sup>1</sup> It is an aggressive malignancy with poor prognosis. Patients presented with vague symptoms or with signs and symptoms attributed to hormonal imbalance. Surgical resection with or without mitted administration are treatment options but Complete surgical resection offers the only chance for cure. Although many patients presented with resectable disease up to 75-85% have a relapse after resection.

**Methods:** A retrospective review was made from case notes of patients with adrenocortical carcinoma presenting in the department of onco-urology SKMCH & RC Lahore over last five years (Dec. 2010 till august 2015). Clinical data of all patients including age, gender, clinical presentation, tumour size, clinical and pathological TNM classification, surgery, adjuvant chemotherapy, histopathological findings, tumour recurrence and patient survival was analysed using SPSS version 20.

**Results:** Out of 29 patients presented in last five years with adrenal tumour 13 had adrenocortical carcinoma. Study comprised of 13 patients including 6 men 46.2% and 7 women 53.8%. Age ranges from 1 to 82 years. Out of 13 patients hormonally active tumour was diagnosed in four patients. Five patients 38.5% had right sided tumour while 8 patients 61.5% had left sided tumour. At diagnosis all patients had tumour size more than 4cm ranges from 5.6 to 33.4cm on CT scan and 5 to 36cm on histopathology with weight ranging from 332 to 3475 grams and were classified as resectable tumours. Eight patients 61.5% were operated in our hospital while 5 patients 38.5% operated outside. Six patients 46.2% were treated with surgery alone while 7 patients 53.8% were treated with surgery along with adjuvant mitted. Twelve patients 92.3% had T2 and one patient 7.7% had T3 tumour on CT scan. Eleven patients 84.6% patients had lymph node negative tumour and two patient 15.4% had lymph node positive tumour on histopathology. Seven patients 53.8% had well differentiated 2 patients 15.4% had moderately differentiated and 4 patients 30.8% had poorly differentiated tumour. Eight patients 61.5% were operated in our hospital while 5 patients 38.5% operated outside. Out of 13 one patient 7.7% had positive resection margins. Out of 13 patients six patients 46.2 % presented with tumour recurrence out of which two had metastatic disease one of them expired while five patients still alive with disease. Seven patients are alive without recurrence. Length of follow up ranges from 12 to 60 months. Median length of follow up was 16 months and the mean was 28.07 months. Median length of recurrence free follow up was 13months and mean was 21.5 months. . Overall five years overall survival was 92.3% and disease free survival was 53.8%.

**Conclusion:** Older age, positive resection margins, positive nodal status and poorly differentiated tumour on histopathology are the factors associated with poor prognosis. Complete tumour resection is the only curative treatment option for adrenocortical carcinoma. So surgery should be considered even in patients with locally advanced disease.

## 014 P

**PROGNOSTIC SIGNIFICANCE OF PRE AND POST OPERATIVE SERUM CEA LEVELS IN PATIENTS WITH RECTAL CARCINOMA.****SHADAB KHAN, SANA AMIR, IRFAN TARIQ, M.ATTAULLAH, SHAHID KHATTAK, AMIR ALI SYED.****DEPARTMENT OF SURGICAL ONCOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE. PAKISTAN**

**Objective:** The aim of this study is to concurrently evaluate pre and postoperative serum CEA levels as a prognostic factor for relapse and survival in rectal carcinoma patient.

**Method:** A retrospective review was made from case notes of patients with histologically proven rectal carcinoma admitted in the department of surgical oncology SKMCH & RC Lahore over last ten years (Jan. 2005 till Dec. 2015). Clinical data of all patients including age, gender, clinical presentation, clinical and pathological TNM classification, neoadjuvant chemoXRT, surgery, adjuvant chemotherapy, pre and postoperative CEA levels, histopathological findings, local and distant tumour recurrence, disease free survival and overall survival was analysed using SPSS version 23.

**Results:** Total 612 patients presented with biopsy proven rectal carcinoma in ten years. Out of 612 434 patients had resectable rectal carcinoma on initial presentation. Study comprised of 434 patients including 284 men 65.4% and 147 women 33.8%. Age ranges from 25 to 88 years. Six patients had clinical stage 1, 43 patients had stage 2, 375 patients had stage 3 and 10 patients had stage 4 disease. Neoadjuvant chemoXRT was given in 393 cases while 41 patients had upfront surgery. Low anterior resection was performed in 161 patients, ultralow anterior resection in 40 patients, anterior resection in 6 patients, Abdominoperineal resection in 158 patients, Extra levator Abdominoperineal resection in 37 patients, proctocolectomy in 10 patients and 22 patients had Hartman procedure. Histopathology showed stage 1 disease in 62 patients, stage 2 diseases in 72 patients, stage 3 diseases in 205 patients and stage 4 diseases in 6 patients while 89 patients had complete response to neoadjuvant treatment with no residual disease. Well differentiated tumour was seen in 60 patients, 241 had moderately differentiated, 44 patients had poorly differentiated tumour. Resection margins were positive in 29 patients. On follow up recurrence was noticed in 152 patients out of which 2 had both local and distant recurrence, 69 had only local and 81 had only distant metastasis. Patients with recurrent disease had their CEA levels checked preoperatively as well as on 6 month and 12 month follow up and found to be higher than normal values in 122 patients out of 152 patients (80%) while in 265 patients out of 282 (94%) preoperative as well as follow up CEA levels were under normal limits. Currently 273 patients are alive and healthy with no residual or recurrent disease. 37 patients are alive but have recurrent disease with ongoing treatment, 111 patients died of cancer and 13 patients lost to follow up.

**Conclusion:** Pre and postoperative CEA levels is clinically important predictor of poor prognosis in rectal carcinoma. CEA levels are important indicator for disease free survival and overall survival and higher levels are associated with local and distant metastasis. Surveillance of patients with raised CEA levels with an unknown cause should be extended and these patients should be examined with sensitive diagnostic methods.

## 015 P

**RISK FACTORS FOR BLOOD LOSS IN LIVER RESECTION. AN INSTITUTIONAL REVIEW****MUHAMMAD SHADAB KHAN, M. ATTAULLAH, SANA AMIR, FAISAL HANIF****DEPARTMENT OF SURGICAL ONCOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE. PAKISTAN**

**Introduction:** Liver resection is the treatment of choice for patients presenting with primary or metastatic liver lesions. Liver resection remains a major surgical procedure and carries the risk of excessive blood loss, subsequent need for blood transfusion and associated morbidity and mortality.

**Objective:** This study aims to identify the risk factors leading to excessive blood loss during liver resection surgery.

**Method:** A retrospective study carried out on 40 patients underwent liver resection for primary or metastatic liver lesions in the department of surgical oncology Hepatobiliary unit SKMCH &RC Lahore between October 2014 till July 2017. Clinical data of all patients including demographic variables such as age, gender, clinical variables such as Hepatitis B and C, cirrhosis of liver, varices, ascites, child score, pre operative chemotherapy, Perioperative variables such as CVP, intraoperative IV fluid administration, blood loss, operative time, surgical variables such as tumour size, major hepatectomy if 3 or more segments resected, hepatic vein or portal vein involvement, tumour with central location, time of pringle technique, portal venous pressure and tumour pathology analysed using SPSS version 20.

**Results:** Out of 72 patients selected for study 34(46.6%) were male and 38(52.1%) were female. 26 patients (35.6%) had associated comorbidities while 46 patients (63%) had no comorbidities. Six patients (8.2%) had major hepatectomy. Twenty four patients (33.3%) had tumour size less than 4 cm and 45 patients (62.5%) had tumour size more than 4cm. 31 patients (42.5%) had metastasis, 13 patients (17.8%) had HCC, 14 patients (19.2%) had GB carcinoma and 10 patients (13.8%) had hepatoblastoma, 3 patients (4.1%) had benign tumour and one had neuroendocrine tumour. During surgery 16 patients (21.9%) had pringle time less than 20 minutes, 17 patients (23.3%) had more than 20 minutes and in 38 patients (52.1%) pringle manure not performed. 34 patients (46.6%) out of 72 had chemotherapy preoperatively. 25 patients (34.2%) had more than 4000ml of peroperative intravenous fluids while 46 patients (63%) had less than 4000ml. 32 patients (43.8%) had central venous pressure more than 10 cm of water while 40 patients (54.8%) had less than 10 cm of water. 45 patients (61.6%) had blood loss less than 500ml and 27 patients (37%) had blood loss more than 500ml. 42 patients (57.5%) operated in less than 6hrs time and 30 patients (41.1%) took more than 6 hrs. In 27 patients (37%) CAUSA used as resection device while in 34 patients (46.6%) Enseal and in 11 patients (15.1%) stapler used for resection. Mean blood loss was 581.25ml while mean operative time was 441.5 minutes.

**Conclusion:**

Our study concludes that blood loss during liver resection surgeries depend on patient platelets count, cirrhotic nature of liver, increase peroperative IV fluids and histopathology of HCC which shows similar results when compared with other studies.

**016 P****A PRELIMINARY REPORT OF ROLE OF SUBMENTAL FLAP IN ORAL CAVITY RE-CONSTRUCTION****SHERYAR RIAZ, MOHAMMAD ADEEL, MUHAMMAD FAISAL , SYED RAZA HUSSAIN****DEPARTMENT OF SURGICAL ONCOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE. PAKISTAN**

**Objective:** In head and neck surgery, free flap is considered as the standard of care in the oral cavity reconstruction, However, because of the complexity, time consumption, cost, and level of expertise required in the procedure, its use is slightly limited in specific circumstances. The submental flap provides an alternative technique in the field of reconstruction especially in situations where free flap services are not available. The safety of submental flap is extremely controversial. The objective of this study is to demonstrate the safety and benefits of this flap in oral cavity reconstruction.

**Material and method:** A total of 22 cases with oral cavity cancers who underwent submental flap in 2015 and 2016 at Shaukat Khanum Cancer Memorial hospital were included. We retrospectively reviewed charts of these patients.

**Results:** Of 22 patients 20 were males and only 2 females, age ranged from 21 to 73 years. Most common primary tumour sites included buccal mucosa (11), tongue (5), and lower alveolus (4). All patients underwent ipsilateral selective neck dissection after flap was harvested. Complete flap loss occurred in 3 whereas 7 patients had flap dehiscence that subsequently healed. Mean follow-up was 11 months. 4 patients had regional recurrence, 1 had distant and 17 had no recurrence. On the latest follow-up, 15 patients were alive without any disease, 4 were alive with disease and 3 had died.

**Conclusion:** Submental flap is a satisfactory option for oral cavity reconstruction. However, pre-operative selection of clinically neck node negative patient is extremely important as it has potential risk of occult metastasis.

**017 P****A RARE CASE OF PNEUMATOSIS INTESTINALIS****NAMRA UROOJ, MAHEEN JANJUA, AWAIS AMJAD MALIK, IJAZ ASHRAF, SHAHID KHATTAK, AAMIR ALI SYED****DEPARTMENT OF SURGICAL ONCOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE. PAKISTAN**

**Introduction :** Pneumatosis intestinalis (PI), defined as gas within the bowel wall, is an uncommon radiographic sign which can represent a wide spectrum of diseases and a variety of underlying diagnoses. PI has traditionally been associated with immediate operative intervention and a high mortality rate. Because its aetiology can vary greatly, management of PI ranges from surgical intervention to outpatient observation the management of symptomatic pneumatosis intestinalis in an acute and outpatient setting remains a challenge to both physicians and surgeons.

**Case presentation :** We present a case of ulcerative colitis which developed into PI and was managed at Shaukat Khanum Hospital. A 29 year-old presented with diarrhoea ,weight loss and fever. He was investigated and diagnosed as a case of Inflammatory Bowel Disease has undergone steroid therapy. After 3 months he presented with an acute exacerbation of ulcerative colitis. A week into his treatment his condition deteriorated further and was transferred to ICU.A CT abdomen and pelvis was performed which demonstrated new development of pneumatosis of the ascending colon, extending to the hepatic flexure. Emergency Exploratory Laparotomy was performed and total colectomy with end ileostomy was done. He remained on ventilator support post operatively stayed in ICU for 45 days post operatively. Despite for providing all available treatment measures he could not survived

**Conclusion :** PI is a clinical sign and not a disease, usually first diagnosed on radiographic study. PI is a relatively rare finding having an overall incidence of 0.03% among the general population.it is associated with high mortality rate .Very few cases have been reported in literature associated with UC.

**018 P****ROUTINE PRE-OPERATIVE BLOOD CROSS MATCH IN MASTECTOMY: TIME TO CROSS IT OFF!****A Zaidi****DEPARTMENT OF SURGICAL ONCOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE. PAKISTAN**

**Introduction:** Blood transfusion in breast cancer surgery patients is becoming rare due to meticulous haemostatic surgical techniques. However, all patients undergoing mastectomy in our hospital have preoperative blood cross match done, at a cost of 10 dollars (USD) per patient. We looked at our mastectomy patients requiring blood transfusion.

**Methods:** All consecutive mastectomy patients from January to June 2016 were included from a prospectively maintained computerized database. Patient demographics, haemoglobin levels, reasons and timings of blood transfusion were recorded.

**Results:** 182 patients underwent mastectomy during 6 months. 170 (93.4%) patients had preoperative blood cross match done. 15 patients (8.2%) required blood transfusion preoperatively for building up their haemoglobin levels (range 7.4-9.9 g/dL, median 9.1 g/dL). 9/15 patients had neoadjuvant chemotherapy. Blood transfusion was carried out on the same day of surgery (n=2), a day before surgery (n=11) or 2 days before surgery (n=2). Cost of blood cross match in these 15 patients needing transfusion was 150 USD compared to 1700 USD cost of cross matching 170 patients. None of our patients required transfusion intra or post-operatively. Cost of blood cross match in 155 patients that never required blood transfusion was 1550 USD.

**Conclusions:** None of our mastectomy patients required blood transfusion in emergency situation warranting preoperative cross match in the whole cohort. 8.2% patients needed transfusion preoperatively, where there was ample time to cross match and arrange blood. We recommend that routine preoperative cross match in mastectomy patients can be safely avoided with an additional benefit of saving cost (1550 USD in 6 months).

019 P

## MANAGEMENT OF CA APPENDIX - AN INSTITUTIONAL EXPERIENCE

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**Introduction:** To study the surgical and oncological outcome of all the patients presenting with a diagnosis of Ca Appendix at SKMCH&RC.

**Methodology:** From 2006 to 2015 all patients with a diagnosis of Ca Appendix were included in the study. Demographic variables were collected. Surgical outcomes in terms of operation performed and its complications were recorded. Short and long term oncological outcomes were recorded. All data was entered and analysed in SPSS ver 21.

**Results:** A total of 35 patients were included in the study. Median age was 44 years. There were 7 male and 12 female patients. Most common presentation was pain RIF in 16 patients followed by altered bowel habits in 3 patients. 17 patients had an adeno-carcinoma and 2 had Neuroendocrine Ca. 13 patients had a standard right hemicolectomy performed. 5 only had an appendectomy performed. One patient had a TAH BSO + appendectomy. 12 patients received adjuvant chemotherapy. 8 patients had a disease recurrence. All patients had a median survival of 24 months.

**Conclusion:** Cancer of the appendix is rare and needs to be managed aggressively. All patients are best treated with a formal right hemicolectomy with adjuvant chemotherapy.

**020 P****MEDIAL SURAL ARTERY PERFORATOR FLAP FOR INTRA-ORAL RECONSTRUCTION AFTER TUMOUR ABLATION****FARRUKH ASLAM KHALID, SAIF UR REHMAN, MUHAMMAD SALEEM, JIBRAN RABBANI, MUHAMMAD AMIN, ABDUL MALIK MUJAHID, MOAZZAM NAZEER TARAR****JINNAH BURN & RECONSTRUCTIVE SURGERY CENTRE, ALLAMA IQBAL MEDICAL COLLEGE, LAHORE. PAKISTAN**

**Background:** A thin flap is often required to cover the soft tissue defects in oral cavity. The ideal flap must be reliable, thin, with good pedicle length and minimum donor site morbidity. Over the past few years Medial Sural Artery Perforator (MSAP) flap has emerged as a reliable option with the advantage of lower donor site morbidity. We present our experiences and review the literature regarding this flap.

**Methods:** Our study is a prospective case series at Jinnah Burn & Reconstruction Centre, Lahore. All cases in which free MSAP flap were performed for intraoral reconstruction were included from October 2016 to August 2017. The oral cavity defects were created after tumour resection in all cases (i.e. carcinoma of tongue). Patients were followed at one week and one month after discharge and data was entered into the proformas.

**Results:** Total 12 patients were operated with this flap. Free MSAP flap was performed for reconstruction of the oral cavity, which included tongue and floor of the cavity. The maximum flap dimensions were 10 cm length and 6.5 cm width. The maximum pedicle length was 16cm. All flaps survived and showed good outcome, with no significant complications like venous congestion and flap failure. The donor site was primarily closed in 5 cases while split skin graft was used to cover the donor site in other cases.

**Conclusion:** The MSAP flap provides a thin free flap with lower donor site morbidity as compared to the other options. It is a good addition to the armamentarium of perforator flaps which are relatively thin and pliable, can be harvested by two team approach and under tourniquet, and has a hidden donor site. Level of Evidence: IV

**Key words:** Medial Sural artery perforator flap, intra-oral reconstruction, soft tissue coverage, free flap, carcinoma of tongue

**021 P****SEBACEOUS CARCINOMA OF FOREHEAD: A RARE MALIGNANT LESION****FARRUKH ASLAM KHALID, ZAIN UL ABIDIN, MUKAND KUMAR JA, MUHAMMAD SALEEM, JIBRAN RABBANI, MUHAMMAD AMIN, MOAZZAM NAZEER TARAR.****JINNAH BURN & RECONSTRUCTIVE SURGERY CENTRE, ALLAMA IQBAL MEDICAL COLLEGE, LAHORE, PAKISTAN**

Sebaceous carcinoma is an uncommon malignant tumour arising from sebaceous glands. Sebaceous carcinoma typically occurs on the eyelid as slow growing, painless, pink-yellow nodule. Although it is rare, it can also be seen on head, neck, extremities, breasts, trunk, buccal mucosa and genitalia. Sebaceous carcinoma is locally aggressive, more over it can metastasize to regional lymph nodes and distant organs. Sebaceous carcinoma is generally seen in 6th and 7th decades of life and above. Here we present a case of 15Y/M diagnosed with sebaceous carcinoma of forehead. After multidisciplinary meeting, the tumour was removed surgically with adequate margin under frozen section control along with removal of outer table of frontal bone, the defect thus created was covered with free tissue transfer and postoperative radiotherapy was given to the patient.

**Key words:** Extra ocular surgery, free tissue transfer,

**022 P****IS IT JUSTIFIABLE TO EXCISE SUBMANDIBULAR GLAND AS PART OF NECK DISSECTION IN ORAL SQUAMOUS CELL CARCINOMA.****RAANA AKBAR****ENT, HEAD & NECK SURGERY, LIAQUAT NATIONAL HOSPITAL, KARACHI, PAKISTAN**

In oral cavity squamous cell carcinoma (SCC) surgery submandibular gland (SMG) is usually excised as part of neck dissection. However, it has an important function to serve. It produces 60-70 % of unstimulated saliva. Saliva plays an important role in maintaining oral hygiene and health. Especially in patients of oral cavity SCC who receive post operative radiotherapy its removal can aggravate xerostomia which can lead to severe discomfort. We reviewed the records of patients who underwent neck dissection (unilateral or bilateral) for oral cavity SCC from January 2009 to July 2017 and found that out of 213 neck dissections SMG was involved by the tumour metastasis in only 2.4% of the cases. We conclude that efforts should be made to preserve SMG in order to improve post operative morbidity associated with its removal.

023 P

## PRIMARY HEPATIC NEUROENDOCRINE TUMOUR - MULTIMODAL APPROACH FOR DIAGNOSIS AND MANAGEMENT

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**Background:** Neuroendocrine tumours (NET) of the liver are generally metastatic lesions from other more common primary sites. Liver is an unusual primary site for a NET with only 150 reported cases in English literature. Here we present a case of a primary hepatic NET.

**Case presentation:** A 64 years old gentleman with no known comorbidities presented in outpatient department with 3 weeks history of pain in right upper abdomen associated with generalized weakness and poor appetite. Examination was unremarkable except for non tender hepatomegaly. CT scan liver showed a large 18.1 cm lesion in right lobe that was atypical for HCC. Viral markers for Hepatitis B & C were non reactive. To confirm the diagnosis, biopsy of the lesion was performed that showed NET. Upper and lower GI endoscopies and whole body octreotide scan was performed to locate the primary lesion. These investigations revealed no lesion elsewhere in the body, so he was diagnosed with primary hepatic NET. It was managed with 1 cycle of neo adjuvant chemotherapy to reduce the size of the lesion followed by right portal venous embolization to increase the volume of future remnant liver. Right hepatic trisectionectomy was performed 1 month after PV embolization. Final histopathology showed 23 cm NET, WHO Grade-II with 2 mm nearest parenchymal margin.

Post operative course was unremarkable and he was discharged on the 6<sup>th</sup> POD in stable condition. On his second follow-up visit, 8 weeks after surgery, he presented with right leg DVT and bilateral pulmonary embolism that was managed with therapeutic dose of enoxaparin and life long anticoagulation. Currently he is alive, disease free and on regular follow up.

**Conclusion:** Primary hepatic NETs are challenging to diagnose but they can be successfully managed with multimodal treatment.

024 P

## METAPLASTIC BREAST CARCINOMA: A SINGLE CENTRE EXPERIENCE IN PAKISTAN

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**Introduction:** Endometrial carcinoma is the most common malignancy of the female genital tract with an estimated 49,560 new cases and 8190 deaths in 2013 in the United States. Adjuvant chemotherapy sequentially with radiation has shown to improve progression free survival in previous studies..

**Objectives:** To determine the progression free, and overall survival of patients with Endometrial Cancer

**Methods :** From Jan 2017 till July 2017 , 203 patients with MBC treated at Aga Khan University Hospital, Karachi were identified and retrospectively reviewed. Kaplan-Meier method was used for survival analysis.

**Results:** The median age at tumour diagnosis was 60 years. 170 (87%) patients had T1 tumour size and 159 ( 81.54) patients had histological Stage I disease. The most common histopathology was Endometrioid (81.56%). 181 (92.82%) patients had N0 disease where as 14 ( 7 % ) had N1 or N2 involvement. 101 ( 51.7% ) patients had Grade II , and 42 ( 21.54 % ) had grade III disease. 184 patients ( 94.36%) underwent surgery , whereas complete debulking was performed in 166 patients ( 90.22 % ) Adjuvant chemotherapy was given to 40 patients ( 20.51%) where as adjuvant radiation therapy was given to 88 patients ( 45.13% ) . The progression free survival was assessed after patients received the recommended treatment.

**Keywords:** Endometrial , survival

025 P

**AXILLARY LYMPH NODE DISSECTION IN BREAST CONSERVATION CANCER SURGERY: TO DRAIN OR NOT TO DRAIN****RUQAYYA NAHEED KHAN, ISRAR AHMAD, AWAIS AMJAD MALIK, HAFZA BABAR, ASAD PARVEIZ, ZULQARNAIN CHAUDHARY****DEPARTMENT OF SURGICAL ONCOLOGY, SHAUKAT KHANUM HOSPITAL, LAHORE, PAKISTAN**

**Objective:** Patients undergoing axillary lymph node dissection (ALND) for metastatic lymph nodes in our hospital usually have drains placed in their axilla for a period of 6-10 days. We evaluated the post-op course of patients who underwent breast conservation surgery (BCS) along with ALND.

**Methods:** A prospective cohort study was conducted at Shaukat Khanum Memorial Cancer Hospital from April 2017 to August 2017 including all lymph node positive breast cancer patients undergoing BCS with ALND. Patients were divided in two groups. Group A had no axillary drain while in Group B a drain was placed in axilla.

**Results:** A total of 76 patients were included. 41 patients were included in group A and 35 patients in Group B. Median number of LNs dissected in group A was 17 and in group B was 15 (p value 0.443). Median operative time in group A was 84 min and in group B was 79 min (p value 0.223). Median hospital stay in both groups was 1 day (p value 0.78). At 2 weeks all patients in group A developed seroma as compared to none in group B (p value < 0.001). 3 of these patients in group A required aspiration of seroma due to pressure effects. Rest were managed conservatively. At 6 weeks only 50% patients had a seroma radiologically in Group A as compared to 33% in group B (p value 0.023). No intervention was required in any patients at week 6. QOL at 2 weeks was much better in Group A (7 / 41 patients had unsatisfactory response) as compared to group B (10 / 31 had unsatisfactory response). Results were statistically significant (p value 0.045). However there wasn't much difference in QOL at 6 weeks. Only 1 patient in group A had an unsatisfactory response. Average pain score at 2 weeks was similar in both groups (4.2 v/s 4.1 p value 0.73). Infection was seen in 1 patient in each group at 2 weeks (p value 0.668) and in only 1 patient in group A at 6 weeks (p value 0.067).

**Conclusion:** We conclude from our study that there isn't much difference in drain and no drain group in terms of wound infection and pain scores. No drain group is however associated with a better QOL in early post-op period.

026 P

## PANCREATICODUODENECTOMY WITH SYSTEMATIC MESOPANCREAS DISSECTION PROVIDES BETTER LYMPH NODE HARVEST AND RESECTION MARGINS.

RAZA SAYYED<sup>1</sup>, SAMIULLAH NIAZI<sup>2</sup>

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**Introduction:** Pancreaticoduodenectomy with Systematic Mesopancreas Dissection (SMD) allows the dissection of nerve rich connective tissues around the superior mesenteric artery along with central vessel ligation and en-bloc removal of lymph nodes. This approach is especially useful for borderline resectable cancers or cancers with enlarged lymph nodes.

**Methods:** Patients undergoing pancreaticoduodenectomy with SMD were included. Histopathology of the resected specimen was reviewed and the lymph node yield, pancreatic, common bile duct as well as retroperitoneal margins were evaluated as surrogate for oncological quality of resection.

**Results:** Between July 2017 and August 2017, a total of three patients underwent pancreaticoduodenectomy with SMD using supracolic anterior artery first approach. All patients were male with median age of 45 years. The median lymph node yield was 23. The median common bile duct margin was 38 mm, Median pancreatic resection margin was 39.5 cm. Median retroperitoneal/uncinuated margin was 26.5 mm.

**Conclusions:** Evaluation of histopathology of the excised specimen following pancreaticoduodenectomy with systematic mesopancreas dissection shows good lymph node harvest as well as resection margins making it a good oncological choice especially in locally advanced cancers.

## 027 P

**NEPHRON SPARING SURGERY OUTCOMES IN SPECIALIST CANCER HOSPITAL OF A DEVELOPING COUNTRY. A RETROSPECTIVE MULTIVARIATE ANALYSIS AT SHAUKAT KHANUM CANCER HOSPITAL, PAKISTAN.****NOUMAN KHAN, MUHAMMAD ARSHAD IRSHAD KHALIL, ALEENA, SIDRA MANZOOR, AZFAR ALI, IRFAN AHMAD, USMAN AHMAD, KHURRUM MIR.****DEPARTMENT OF SURGICAL ONCOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE. PAKISTAN**

**Background:** Nephron sparing surgery (NSS) is the standard treatment for localised renal cell tumours of relatively small size. Follow up outcome data is limited regarding the role of NSS in Pakistan.

**Objective:** To determine postoperative outcome in terms of survival, recurrence and complications after nephron sparing partial nephrectomy in a single specialist cancer hospital of a developing country.

**Methods:** This is a retrospective analysis of prospectively collected data from Shaukat Khanum Hospital Lahore, one of the largest uro-oncology specialist service in Pakistan. Forty-four adult patients (21-69 years) with non-metastatic renal tumours who underwent NSS from June 2010 to June 2017 were included in the study. Data was analysed using cox-proportional hazard analysis for the effect of multiple factors on recurrence.

**Results:** A total of 44 NSS were performed out of with 34 were solitary and 10 bilateral tumours. 34 (77.3%) were males and 10 (22.7%) females with a mean age of  $48.07 \pm 13.3$  years and a mean follow-up duration of  $22.2 \pm 20.78$  months. There was significant association of renal pelvis score with Clavien-Dindo surgical complications ( $p < 0.029$ ) and urine leakage ( $p < 0.029$ ) on Kendall's tau correlation analysis. A multivariate cox-proportional hazard analysis was performed for various clinical variables ( gender, laterality, DM, Hypertension, smoking, length of stay LOS, T stage, RENAL score, Fuhrman's grade, frozen section, histopathology, and positive surgical margins ) and their impact on recurrence. None out of the twelve clinical variables were statistically significantly associated with higher recurrence rates ( $p > 0.05$ ). The median 5-year progression free survival was 100% on life table. There was no mortality during the study period time.

**Conclusion:** NSS for localised non-metastatic renal tumours is a viable option with excellent overall outcome in terms of recurrence, survival and renal function preservation.

**Keywords:** renal cell carcinoma, Clavien-Dindo surgical complications, nephron sparing surgery, survival, nephrometric RENAL score, renal pelvis score.

**028 P**

## **MESENCHYMAL CHONDROSARCOMA OF THE INFRATEMPORAL FOSSA—A RARE CASE REPORT**

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Mesenchymal chondrosarcoma is an aggressive, uncommon histological entity arising in bone and soft tissue. It is a subtype of chondrosarcoma and second most common tumour of bone accounting for about 2%. We are presenting a case of a 35-year-old male patient treated at Liaquat National Hospital with an infratemporal fossa mass. A computerized tomography (CT) of the face and sinuses demonstrated a lesion in the infratemporal fossa. Excision of the infratemporal fossa mass with sub-ciliary extension was performed. It was diagnosed as Grade II Mesenchymal chondrosarcoma. The patient was advised post-operative chemotherapy. No recurrence was noted on follow-up.

## 029 P

## AN EXPERIENCE OF 30 CASES OF TOTAL LARYNGO-PHARYNGO-ESOPHAGECTOMIES WITH STOMACH PULL UP

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**Objectives:** The study was carried out to ascertain the outcome of total laryngo-pharyngo-esophagectomies (TLPO) for malignant hypopharynx and cervical esophageal disease .

**Study design** descriptive case series

**Place and duration of study:** The study was conducted in CMH Rawalpindi and CMH Lahore from Jan 2010 to Oct 2016.

**Material methods:** This is a descriptive case series of 30 cases of TLPO in 7 years from Jan 2010 to Oct 2016. Patients included were of histologically proven lesion of hypopharynx with post cricoid involvement and cervical esophageal tumour involving pharynx and cricoid. Metastatic and per operative unresectable cases were excluded from the study. Clinical examination, CECT scan of neck and chest, indirect laryngoscopy and discussion in multi-disciplinary meeting was employed preoperatively in all cases. Patients were counselled about permanent tracheostomy and voice rehabilitation. Stomach was used as conduit in all cases with feeding jejunostomy as postoperative nutritional support. Oral feeding was started on 7<sup>th</sup> day of surgery. Tracheostomy care at home was taught to all patients before discharge from hospital.

**Results:** 17 (57%) were males and 13 (43%) were female patients. 15 (50%) patients had dysphagia to solids as presenting symptom. 4 (13.3%) had neoadjuvant radiotherapy. 14 (46%) had tracheostomy done before surgery for respiratory compromise due to tumour. Operating time was less than 4 hours with two team technique in 27 (90%) patients. Parathyroid was implanted in 23 (76%) cases. Thyroid from uninvolved side was preserved in 25 (83%) cases. Well differentiated squamous cell carcinoma was present in 16 (53%) cases. 22(73 %) cases were in stage 3 with 14 (46%) as T3NoMo and 8 (26%) as T3N1Mo. Anastomotic leak was seen in 4 (13%) patients. Pneumothorax and pleural effusion developed in 4 (13%) and 4 (13%) patients respectively and were managed with tube thoracostomies. Mortality was in 4 patients (13%).

**Conclusion:** Upper cervical esophageal and hypopharynx malignancies pose significant challenges in managing such patients. Total laryngo-pharyngo-esophagectomy with permanent tracheostomy and stomach pull up offers good results in patients with resectable disease with acceptable morbidity and mortality.

## 030 P

**RISK FACTORS FOR CHYLE LEAK AFTER ESOPHAGECTOMY IN PATIENTS WITH ESOPHAGEAL CANCER****S BATOOL, S AMIR AKBAR, M KHAN, R HASNAIN, O SHAKEEL, S KHATTAK, A ALI SYED****DEPARTMENT OF SURGICAL ONCOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE. PAKISTAN**

**Background:** Chylothorax is an uncommon (3-8 % risk) but potentially fatal complication of esophagectomy with poorly understood risk factors. It has a high morbidity due to loss of fluids, electrolytes, and other nutrients, loss of lymphocytes and immune dysfunction. It is associated with increased pulmonary and infectious complications leading to increased hospital stay and healthcare costs.

**Methods:** Retrospective chart review of adult patients who underwent esophagectomy between 2014 and 2016 was performed. Criteria to identify chyle leak were: Increased triglyceride content of drain output, milky drain out either spontaneously or after cream intake and chylothorax found on re-exploration. Clinical features, operative findings and postoperative variables were recorded and predictors of chyle leak were analysed. Statistical Analysis was performed using Categorical variables were analysed by chi square and ANOVA Numerical variables by Mann-Whitney U test. Linear regression analysis was performed to assess risk factors for recurrence

**Results:** During the study period, a total of 193 adult patients underwent esophagectomy. The mean age was 53 years (SD±10) with 118 males and 74 females. Neoadjuvant therapy was administered to 186 patients. Type of procedure performed was 3-stage esophagectomy in 98, Transhiatal esophagectomy in 79 and Ivor-Lewis esophagectomy in 15 patients.

Chyle leak was identified in 9 (4.6%) patients based on the study criteria. There was no significant association of chyle leak with age (p=0.86), gender (p=0.37), co-morbids (p=0.25), level of tumour (p=0.39), Neo-adjuvant therapy (p=0.81), Type of esophagectomy (p=0.143). Chest drain output on postoperative day 5 was significantly predictive of chyle leak (p value<0.005). Day on which chest drain was removed as also found to be significantly related to chyle leak (p value <0.05).

**Conclusions:** In our institutional experience, the incidence of chyle leak based on the described parameters was 4.6% No significant preoperative risk factors could be identified for chyle leak High chest drain output on postoperative day 5 was found to be a significant predictor of chyle leak.

031 P

**MANAGEMENT OF PARATHYROID ADENOMA, AN INSTITUTIONAL REVIEW****S BATOOL, A AMJAD, M BAIG, N UROOJ, O SHAKEEL, A ALI SYED****DEPARTMENT OF SURGICAL ONCOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE. PAKISTAN**

**Objective:** Parathyroid adenoma is a well known entity. We aim to assess the indications, role of pre-op localization, intra-operative details and post operative recovery of patients who underwent parathyroidectomy for parathyroid adenoma.

**Methods:** We retrieved retrospective data from medical records of adult patients diagnosed with parathyroid adenoma associated with primary hyperparathyroidism during Jan 2006 to Sep 2016. Their demographics, pre-operative investigations, operative details and follow up were studied. Frequencies were calculated and using SPSS 20.

**Results:** During our study period 17 patients were diagnosed with primary hyperparathyroidism due to parathyroid adenoma. All patients were managed by parathyroidectomy by skin collar incision. Mean age of population was 46 years  $\pm$  11. There was no significance difference in gender (9 male verse 8 females). Mean duration of surgery was 80 min and mean blood loss was 15ml. Associated thyroid nodules were observed in 3 patients and were managed by thyroid lobectomy. Pre-operative MIBI scan was able to localize adenoma in 14 out of 17 patients (frequency 82%). There was no use of intraoperative methylene blue and endoscopic ultrasound. PTH and calcium level were decreased in all post operative patients except one and there was no recurrence on follow up.

**Conclusion:** Parathyroid adenomas can be successfully localized with a pre-op MIBI scan. Surgery remains the mainstay of treatment with quite low recurrence rate

## 032 P

**RISK FACTORS AND PATTERNS OF RECURRENCE AFTER CURATIVE RESECTION FOR GASTRO-OESOPHAGEAL JUNCTION CARCINOMA AT A SPECIALIST ONCOLOGIC CENTRE****S BATOOL, S AMIR AKBAR, M. KHAN, O SHAKEEL, R SAYYED, S KHATTAK, A ALI SYED****DEPARTMENT OF SURGICAL ONCOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE. PAKISTAN**

**Introduction:** The incidence of Gastro-Oesophageal Junction carcinoma (GOJC) has shown a steady increase over last few decades despite a decrease in overall incidence of esophageal carcinoma. Survival of patients with GOJC after curative resection stays low (30-40%). We aim to review the risk factors and patterns of recurrence following surgical treatment of GOJC with curative intent

**Methods:** Medical records of patients with GOJC undergoing resection with curative intent between Sep 2009 and Sep 2016 were reviewed. Tumours located within 5cm of GOJ on endoscopy were included in the study as GOJC. Recurrence was defined as presentation of disease at local and distant site after curative surgery and was confirmed by radiological or pathological methods. Clinical details, neo-adjuvant therapy, operative details, clinical and histopathologic staging, margin status and data regarding recurrence were studied and analysed using IBM SPSS version 20.0.

**Results:** During the study period, we identified 154 patients with gastro-esophageal junction cancer. Out of them 83 patients have GOJ adenocarcinoma (39 patients with GOJ type I, 18 with type II tumours and 26 patients with GOJ type III tumours) Median age was 56 years  $\pm$  10. Male to female distribution was 76 verses 24%. All patients except 3 received neoadjuvant therapy. Most of the patients were managed with Surgery predominantly Transhiatal esophagectomy (33 patients) and Total Gastrectomy (24 patients).13% patients showed complete response Advanced pT stage (p value<0.022) and pN stage (<0.05) were found to be significant risk factors for recurrence. Type of surgery was related to be but not found statistically significant risk factor of recurrence (p value=0.06) After a median follow up of 16.6 months 20 patients developed recurrence of which 5 had local recurrence, 11 had distant metastases and 4 had both. Almost half of the recurrences were in liver (51%).

**Conclusion:** The incidence of recurrence following curative resection of GOJC is 24%. This high rate of recurrence suggests the need for careful selection of patients who will benefit from curative resection. Patients with GOJ carcinoma are best managed in specialist oncological centre.

033 P

**LAPAROSCOPIC VS OPEN RESECTION FOR RECTAL CANCER. A LOWER MIDDLE INCOME COUNTRY EXPERIENCE.****AWAIS A MALIK, NAMRA UROOJ, HASHIM HUSSNAIN, MUHAMMAD IJAZ , IRFAN-UL-ISLAM NASIR, MUHAMMAD IJAZ, SHAHID KHATTAK, AAMIR A SYED****DEPARTMENT OF SURGICAL ONCOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE. PAKISTAN**

**Objective:** To measure the short and long term surgical outcomes of laparoscopic rectal cancer surgery at a cancer hospital in a lower middle income country.

**Methods:** All patients with a diagnosis of rectal cancer from Jun 2006 to Jun 2015 were studied. Patient demographics were recorded. Short term surgical outcomes were recorded. Oncological factors indicating an adequate surgical resection were identified. Successful resection was defined as having negative linear and radial margins and a complete TME. LN yield was also recorded. Post op complications were also compared.

**Results:** A total of 440 surgeries were performed. 154 abdominoperineal resections, 35 extra levator abdominoperineal resections, 151 anterior resections, 40 ultralow resections, 40 hartman's procedures and 20 total colectomies were performed. 262 were laparoscopic and 178 were open. There were 27 conversions (10%). Tumours in the open group were more aggressive and more advanced. There were more T4 lesions (5.2% vs 0.6%), more mucinous (38.7 vs 26.7%) and more nodal involvement (45% vs 34%). Distal resection margins were negative in all open and laparoscopic resections. CRM was clear in 83.9% in open resections vs 88.8 % in laparoscopic resections. TME was complete in in 86% in open surgery and 91% in laparoscopic surgery. Median number of LNs excised were similar in both groups (median of 13). Complications were seen in 8.4% patients in open group versus 5.7% patients in laparoscopic group.

**Conclusion:** Laparoscopic surgery is similar to open surgery in terms of early surgical and oncological outcomes. A long term comparison of oncological outcomes in terms of recurrence and survival is required.

034 P

## ANAL CANAL GIST - A RARE ENTITY

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**Introduction:** Gastrointestinal stromal tumours (GIST) are tumours of mesenchymal origin commonly detected in stomach and small bowel. GIST arising primarily from the anal canal is extremely rare. Due to the malignant potential, these tumours are treated with radical surgery like abdominoperineal resection. But with the advent of imatinib therapy and a better understanding of the tumour biology, some cases have been successfully treated with wide local excision.

**Presentation of case:** We describe a case of a 30-year-old male presenting with a 2 cm mass in the anal canal. MRI revealed a well-circumscribed solid nodule involving the anal sphincter. The patient was successfully treated by abdominoperineal resection and adjuvant therapy with imatinib mesylate.

**Discussion:** Only 14 confirmed cases of primary anal GIST have been reported in the literature. Treatment is often planned based on the extent of the disease, the mitotic rate, patient's general condition and willingness for a permanent colostomy.

**Conclusion:** Small lesions (<2 cm) with low mitotic rate may be successfully managed by local excision. Radical surgery should be reserved for large, aggressive tumours.

035 P

## ANAL MELANOMA - A CASE SERIES OF A RARE ENTITY

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**Introduction:** Anorectal melanoma is an uncommon and aggressive cancer with an unfavorable prognosis. We share our experience of cases managed at SKM.

**Methodology:** From 2006 to 2016 all cases of anal canal melanoma presenting to SKM were included. Demographics, treatment given and followup were noted.

**Results:** A total of 7 patients were treated at SKM. All patients had locally advanced tumours and had to undergo abdominoperineal resection. Adjuvant therapy was given in all patients. 4 patients had a distant relapse. 3 patients had no relapse and are under followup. Median survival was 26 months.

**Conclusion:** Anal canal melanoma is a rare entity. Surgery is the first line of treatment with adjuvant therapy offered depending on the histopathology and extent of disease. Despite aggressive surgery and adjuvant therapy these patients tend to relapse and have a poor overall prognosis.

036 P

## A RARE CASE OF DUODENAL DUPLICATION CYST

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**Introduction:** Duodenal duplication cyst is an extremely rare congenital abnormality mostly found in children. It represents less than 5 % of all GI duplication cysts. Most common presentation is abdominal pain. The most common type is cystic, non-communicating, usually located at the medial border of second part of duodenum. Its resection can be challenging even for the most experienced surgeons due to the anatomic proximity of the cyst with ampulla. Malignant changes in cysts are rare; three cases have been reported so far.

**Case:** A 16 years old boy with history of abdominal pain since three years. His EUS revealed 3X1.9 cm cyst area with bright echogenic wall seen adjacent to the descending duodenum. His CT scan report showed a small cystic area seen adjacent to second part of duodenum with internal mucosal lining obvious in it. He underwent whipple's procedure and the per operative findings were duplication of duodenum & intensely adherent mass formation of pancreas, stomach pylorus & duodenum. Post operatively he remained stable and discharged on 15<sup>th</sup> post operative day. His biopsy report revealed "mild pancreatic cyst with surrounding mild to moderate pancreatitis, no neoplastic process around and within the cyst, unremarkable gall bladder, and 2 reactive lymph nodes".

**Conclusion:** This is the first case reported from our setting. Although there are several ways for the management of duodenal duplication cyst. Our case illustrated the feasibility of a whipple's procedure in case of duodenal duplication cyst.

037 P

## OUR EXPERIENCE OF CANCER PATIENTS IN A TERTIARY CARE HOSPITAL OF LAHORE

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**Introduction:** A lot of patients with the diagnosis of some kind of malignancy present to the General surgery Department because there is no separate department of surgical oncology in Government setting, tertiary care hospitals. Moreover no record keeping system of our tumour patients was previously present. In order to find out the tumour burden & improve the surgical management of these patients we have formed a Cancer registry and we would like to share our experience with the rest of the doctors community.

**Methods:** All patients admitted in Surgical Unit 1 of Lahore General Hospital, Lahore from 1<sup>st</sup> January 2017 to 15<sup>th</sup> September, 2017 with the diagnosis of malignancy, irrespective of age, were included in the study.

**Results:** There were a total of 51 patients admitted with the diagnosis of malignancy. 31` (61%) Males & 20 (39%) Females were included in the study. Most of the patients belonged to peripheries of Lahore. A total of 20 patients were discussed in Morbidity and Mortality Meeting. 31 (61%) Underwent some kind of surgical procedure. Among them 6 (19%) patients had undergone whipple's procedure, 3 (9%) hepatico-jejunostomies, 3 (9%) Underwent hemicolectomies ( 2 laparoscopic & 1 open), 6 (19%) patients underwent modified radical mastectomies, 1 (3%) extra-levator APR, 2 (6%) adrenalectomies, 3 (9%) thyroidectomies,3 (9%) parotidectomies,1 (3%)modified radical neck dissection, 1 (3%) exploratory laprotomy & loop colostomy,1 (3%) laparoscopic removal of retroperitoneal mass,2 (6%) orchidectomies.5 Patients expired during hospital stay, 1 (20%) after Extra Levator APR & 1(20%) post whipple's , rest of the patients didn't undergo any surgical procedure. There were 4 (12%) Patients who had received Neo-adjuvant, 5(16%) females who underwent MRM & 2 (6%) males who underwent orchidectomies were referred for Adjuvant to INMOL Hospital, Lahore.

**Conclusion:** Although it's just a start but we want to extend our cancer registry program to the whole Hospital. This would help us to identify the issues being faced by a tertiary care hospital in dealing with the cancer patients.

038 P

## MANAGEMENT OF NEUROENDOCRINE TUMOURS AT A SPECIALIST ONCOLOGICAL CENTER, OUR INSTITUTIONAL REVIEW

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**Introduction:** Neuroendocrine tumours (NETs) are heterogeneous group of tumours with variable clinical presentation including carcinoid syndrome. In this study, we analysed epidemiology, risk factors, recurrence and survival of patients with NET

**Methods:** Retrospective chart review of adult patients who were diagnosed with neuroendocrine tumour from 2006 to 2016 was performed. Clinical features, operative findings and postoperative variables were recorded and risk factors and survival of patients with neuroendocrine tumour was performed. Statistical Analysis was performed using SPSS-20. Categorical variables were analysed by chi square and numerical variables by Mann-Whitney U test.

**Results:** During the study period, a total of 56 adult patients were diagnosed with NET. The mean age was 52 years with 29 males and 27 females. Positive family history was seen in 6 patients. Majority patients (37.8 %) presented with pain in abdomen. Most common sites were lungs and pancreas (21% each). Associated MEN syndrome was seen in 14 patients. Most patient had upfront surgery with exception of four patients who received neo-adjuvant chemo XRT while adjuvant chemo was given to 10 patients. Mean tumour size in our population was 3.7cm with predominant early stage disease (T1-2, N0-1).

Recurrence was seen in 5 patients .Mortality rate was 7 percent with morbidity rate is 23 percent

**Conclusion:** Neuroendocrine tumours are rare versatile tumour that should be treated in specialized hospitals to improve outcomes

**039 P****A RARE CASE OF MELENY'S GANGRENE AFTER FIRE ARM INJURY****ABUZAR RAUF, ANAM FATIMA, MUHAMMD HANNAN****SURGICAL UNIT 1, LAHORE GENERAL HOSPITAL. LAHORE. PAKISTAN**

**Introduction:** Fire arm injuries (FAI) are common in our part of the world. Mostly Patients with homicidal & suicidal gunshot injuries present in surgical emergency. Head & torso are the most vulnerable areas. Majority of the patients expire before being shifted to general wards due to CNS disruption or massive organ disruption and hemorrhage. However it's rare to find out meleny's gangrene in post-operative cases of fire arm injury.

**Case:** An 18 years old boy presented through emergency with the history of fire arm injury. There was one 1X1 cm entry wound on postero-lateral aspect of right arm and 1x1cm exit wound on medial aspect of right arm about 3 cm above the elbow. 1X1 cm entry wound on right subcostal region and 2x2cm exit wound in the left iliac fossa. He underwent exploratory laprotomy and resection of small gut and primary anastomosis of jejunum-ileum was done. Post operatively he developed wrist drop and complained of numbness and anesthesia. So he was shifted back to emergency theatre and underwent fasciotomy of right upper limb (forearm) & exploration of cubital fossa and repair of brachial artery with saphenous graft. Post operatively he developed tachycardia, his saturation dropped and he complained of severe abdominal pain. He was shifted again to emergency theatre and re-exploratory laprotomy was done. Per operative findings were about 100ml pus in pelvic cavity, serosal tear of terminal ileum at drain site & Gangrenous exit wound. So debridement of meleny's gangrene was done. Post operatively patient was shifted to ICU. He expired on 12-09-17 due to cardiopulmonary arrest

**Conclusion:** Case reports of post-operative necrotizing fasciitis are available in literature however we couldn't find out any case of fire arm injury having post-operative meleny's gangrene. In this case our case identifies this rare entity in literature and would help in improving the per-operative and post-operative management of FAI patient in order to reduce the mortality related to Maloney's gangrene.

**Key Words:** Fire arm Injury, Maloney's Gangrene

**040 P****DUPLICATION OF APPENDIX, A RARE SCENARIO. CASE PRESENTATION**

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**Introduction :** Duplication of appendix is an extremely rare scenario with an incidence of 0.004% overall usually diagnosed intraoperatively. Patients normally present in emergency with complaints of right iliac fossa pain. Diagnosis of acute appendicitis is usually made and patients are prepared for an emergency appendectomy.

**Case Scenario :** A 15 years old male presented to us in Emergency with chief complaints of pain Right iliac fossa for last 1 day associated with nausea, burning micturation , loss of appetite and vomiting. He was diagnosed as a case of acute appendicitis and was taken to OR for surgery. Intraoperatively he was found to have duplication of Appendix. One of which was inflamed and the other was normal, both attached to Caecum . His open appendectomy was done (both Appendices were taken out) and the sample was sent for histopathology which showed both the specimen were appendices. Patient recovered well post operatively and was discharged on Post OP day 2 .

**Conclusion:** Duplication of appendix though a rare phenomenon but can be treated with surgical intervention.

041 P

**ENDOSCOPIC THYROID LOBECTOMY: OUR EARLY EXPERIENCE AT LAHORE GENERAL HOSPITAL, LAHORE, SIR GANGA RAM HOSPITAL, LAHORE.****M. AHSAN, IMRAN M. KHOKHAR, QASIM M. FAROOQ, AWAIS AMJAD MALIK, FAROOQ M.AFZAL****LAHORE GENERAL HOSPITAL, LAHORE, PAKISTAN**

**Background:** Conventional Thyroid Lobectomy leaves an unpleasant neck scar. Endoscopic thyroidectomy was first applied by Huschner in 1997. Amongst the best endoscopic techniques is the one we use, referred to as the endoscopic axillary-breast-shoulder approach(ABSA) innovated by Dr. Luong.

**Objective:** To examine the safety, feasibility and cosmetic outcome of endoscopic thyroid lobectomy.

**Patients and Methods:** We performed endoscopic lobectomy in 3 patients at SGRH Lahore, from May 2016 to 8<sup>th</sup> September 2016 & 5 patients in LGH from 9<sup>th</sup> September to 31<sup>st</sup> July 2017, Lahore from 9<sup>th</sup> Sep to 31<sup>st</sup> July . We adopted axillary-breast-shoulder approach. Inclusion criteria were age 18-45 years, solitary nodule less than 4 cm and benign FNAC. Exclusion criteria were multiple nodules, solitary nodule more than 4 cm, age more than 45years, malignant FNAC, recurrent goitre and co-morbid like DM, HTN, IHD, COPD. The parameters studied were the conversion rate, operative time, hospital stay, complications, cosmetic outcome and patient satisfaction. The results were analysed to draw rational conclusion.

**Results:** Successful endoscopic lobectomy was performed in almost all cases with conversion to open in only one case. The mean operative time was 130 minutes. No preoperative injury was inflicted. One case sustained minor skin burns which healed without any residual scar. No postoperative complication developed except seroma in one patient. All patients were discharged after 24 hours. Excellent cosmetic outcome achieved in all patients leading to their optimum satisfaction.

**Conclusion:** Endoscopic thyroid lobectomy is a safe and feasible procedure with satisfactory cosmetic outcome for benign solitary thyroid nodules in selected patients.

**Key Words** Endoscopic, lobectomy, technique, axillary-breast-shoulder, thyroid surgery.

**042 P****NECROLYTIC MIGRATORY ERYTHEMA ASSOCIATED WITH NEUROENDOCRINE TUMOUR, A CASE REPORT.****ZAHRA JAHANGIR, MUHAMMAD TABISH SALEEM, MUHAMMAD ASIF NOOR, FAISAL HANIF, AAMIR ALI SAYED****DEPARTMENT OF SURGICAL ONCOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE. PAKISTAN**

**Introduction:** Glucagonoma syndrome is a rare condition, first reported in 1942, with its estimated incidence being reported as one in 20 million. It is caused by neuroendocrine tumour secreting glucagon. Syndrome comprises of diabetes mellitus, hyperglucagonemia, weight loss, mild to moderate anaemia and Necrolytic Migratory Erythema. Diagnosis is often challenged by the rarity of condition, lack of general awareness, and initial misdiagnosis due to its similarity with diabetes and skin conditions like eczema. Surgical resection of glucagon secreting pancreatic alpha-cell tumour leads to complete resolution of the disease process but in many cases delayed diagnosis and treatment complicates the outcomes.

**Case Presentation:** One such case of 36 years old female is being reported here. At the age of 36 G4 P3+0, developed diabetes in last trimester of pregnancy, associated symptoms were generalized weakness and weight loss despite ongoing gestation. After one month of the completion of pregnancy patient developed oral sores, Along with erythematous blistering, painful and pruritic rash, started from feet and within a period of 2 months it had spread on the whole body.

Patient was initially managed for diabetes and eczema but symptoms worsened, patient also developed abdominal pain. CT scan showed Hypodense exophytic mass of 4.5 x 4.5 cm involving neck and proximal body of pancreas and abutting left lobe liver capsule superiorly. Multifocal other hypodense lesions were seen in pancreatic body/neck with largest measuring up to 2 cm.

EUS guided FNAC was performed which revealed Well differentiated neuroendocrine tumour, WHO grade-II. Total pancreatectomy + subtotal gastrectomy and splenectomy was performed. Within first 24 hours of post-operative period patient reported drastic improvement in itching. Within 72 hours of surgery there was visible improvement in skin lesions. There were no immediate post-op complications and patient was discharged home. Patient is being regularly followed up in clinic and currently doing well.

**Conclusion:** Glucagon secreting tumours of pancreatic alpha cells are rare and diagnosis is almost always delayed. Early diagnosis is of utmost importance because if diagnosed early enough, surgical resection can provide complete recovery.

043 P

## SYNCHRONOUS PRIMARY ENDOMETRIAL & OVARIAN CANCERS

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**Purpose:** Synchronous cancers account for 0.7-1.8% of all gynecological cancers. Among them, synchronous primary endometrial and ovarian cancers are predominant (40-53%). The purpose of this study was to evaluate the clinicopathological characteristics, treatment and prognosis of primary endometrial & ovarian cancers. Patients with synchronous cancers have better prognosis than those with single disseminated cancers.

**Methods:** The clinicopathological characteristics of 41 patients with synchronous ovarian and endometrial cancers treated at Shaukat Khanum Memorial Cancer Hospital & Research Centre Lahore, Pakistan from Jan 2005 to Aug 2017 were reviewed retrospectively in depth from hospital database. WHO committee classification was used for the histologic determination and staged based on FIGO staging. All the data was analysed by SPSS 20.

**Results:** The median age at the time of diagnosis was 51 years (range, 29-71). The common presenting symptoms were abnormal uterine bleeding (AUB, 65.12%), abdominal mass (25.58%), abdominal pain and abdominal fullness (39.53%). An elevated CA-125 level was observed in the majority of patients (n=20, 76.9%). Endometrioid type accounted for 60.47% of uterine carcinomas and different pathological types, including serous adenocarcinoma, clear cell carcinoma, and adenosquamous, were also identified in synchronous primary endometrial and ovarian cancers. All patients underwent surgical intervention (hysterectomy and bilateral salpingo-oophorectomy with pelvic lymphadenectomy or debulking surgery). Only one patient did not receive any post operative adjuvant therapy. 20 patients received platinum based adjuvant chemo therapy and 12 patients received adjuvant radiotherapy.

The 5 year survival rate was 86.05% and 9 patients had recurrence (20.93%). The early stage group (FIGO stage I & II) had more favorable prognosis than the advanced stage group (FIGO stages III & IV);  $P < 0.05$

**Conclusion:** Patients with synchronous primary endometria and ovarian cancers have better overall survival than patients with single primary ovarian or endometrial cancers. Moreover, patients with synchronous primary endometrial and ovarian cancer endometrioid type have better overall survival than patients with non-endometrioid or mixed histologic types.

**Keywords:** Synchronous primary cancers, endometrial cancers, ovarian cancer, prognosis.

044 P

## GASTROINTESTINAL STROMAL TUMOURS: 10 YEARS EXPERIENCE FROM A TERTIARY CARE HOSPITAL.

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**Background:** Gastrointestinal stromal tumours (GISTs) are a relatively rare entity and often present as a locally advanced tumour or with metastatic disease. Complete surgical resection is the only means of cure in localized disease; however, imatinib therapy has greatly advanced the management of GIST and is established as both an adjunct to surgery in high-risk cases and as principle therapy in metastatic disease.

**Methodology:** We retrospectively analysed all the patients who presented to our hospital from Jan 2005 to till date with the diagnosis of GIST and were operated here. Those patients who were operated outside our hospital were excluded from our study. Clinical details, operative data and postoperative outcomes were retrieved from case records. All the data was analysed on SPSS 20.

**Results:** Total of 46 patients was analysed, in which male and female ratio was 1:1 with mean age of presentation of 50.3 years (Range 33-69 years). Most of the patients were from Punjab (75%) with abdominal pain being the most common presenting symptom found in 67% patients, followed by Khyber Pakhtoon Khuwa (25%). Neoadjuvant imatinib was given in 31 % patients. All patients underwent surgery with open surgery being the most common mode of surgery (77%) and laparoscopic surgery was performed in 7.7% patients and rest were laparoscopic converted to open. Adjuvant imatinib was offered to 71% patients and recurrence was found in 36% patients. Most of the patients are alive (71%) and on regular follow-up.

**Conclusion:** Neoadjuvant immunotherapy has a definitive role in down staging the tumour with surgery being the definitive therapy.

## 045 P

**LAPAROSCOPIC VERSUS OPEN RIGHT HEMICOLECTOMY: RESULTS FROM A COUNTRY WITH LIMITED RESOURCES.**

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**Introduction:** This study was conducted to evaluate the early surgical outcomes of open and laparoscopic (lap) right hemicolectomy in our patients where most of the laparoscopic surgeries were performed in last 5 years.

**Methods and procedures:** The data was retrospectively analysed from the medical record files of all the patients who presented to our hospital with the diagnosis of right sided colon carcinoma from Jan 2006 to Dec 2015 and underwent laparoscopic / open right hemicolectomy. Demographics, operative findings and histopathological reports were all recorded on a preset proforma and compared. All the analysis was performed on SPSS 20.

**Results:** Total of 133 patients were operated during the study period, out of which 48 were operated laparoscopically and 85 patients operated through open surgery. Median age was 50 for lap and 51 for open. Blood loss was less in lap group (50mls) as compare to 100mls for open surgery group (P-value= 0.949) but operative time was more in lap group (average 240 minutes Vs 170 minutes for open), but still statistically insignificant with a P-value of 0.226. Specimen length was comparable in both the groups (median 30.5cm for lap vs 32 for open group with a P-value of 0.544), similarly there was no difference in the proximal, distal and mesenteric resection margins having P-value 0.679. The number of harvested lymph nodes (median 18.5 for lap vs 18 for open group) was similar in both the groups with statistically insignificant P-value of 0.305. On long term follow-up 2 patients presented with recurrence in lap group and 9 patients in open surgery group (P-value = 0.176). In lap group 2 (4.1%) patients developed pelvic collection in comparison to open group in whom 7 patients (8.2%) developed complication including pelvic collection in 5 patients.

**Conclusion:** Laparoscopic right hemicolectomy is technically more appealing and oncologically equivalent to open right hemicolectomy with comparable early surgical outcomes.

046 P

## MICROVASCULAR FREE TISSUE TRANSFER FOR HEAD AND NECK RECONSTRUCTION - OUR EXPERIENCE AT SHAUKAT KHANUM

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**Introduction:** Head and neck cancers account for up to 5% of all cancers. Early detection and therapy has led to improved survival rates, and a greater need for reconstructive procedures of the complex three-dimensional defects. We present our experience of the use of micro-vascular free flaps for reconstruction of head and neck defects post tumour excision.

**Methods:** A retrospective review was done of all micro-vascular free flaps performed for head and neck reconstruction between 1<sup>st</sup> May 2017 and 15<sup>th</sup> Sept. 2017. Pre-operative diagnoses, operative procedure, type of flap, and post-operative flap outcomes were assessed.

**Results:** A total of 12 micro-vascular free flaps were performed during the above-mentioned period. Radial forearm free flap was the most commonly utilized flap ( n = 7), and was used for partial glossectomy defects. The free fibula flap was done for segmental mandibulectomy defects ( n = 4). Only one free Antero-lateral Thigh flap was done during this period, also for a glossectomy defect. Complete flap survival was achieved in all cases but one, the antero-lateral thigh flap, in which there was complete flap loss. There were no other immediate or early post-operative complications seen in these patients

**Conclusions:** Tumour resections in the head and neck region result in complex defects. With careful planning and selection, micro vascular free tissue transfer provide optimal reconstruction for these defects.

047 P

## PLASTIC AND RECONSTRUCTIVE SURGERY AT SHAUKAT KHANUM - OUR EXPERIENCE

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**Introduction:** Shaukat Khanum Memorial Cancer Hospital is a 195 bedded dedicated cancer centre catering to a population of over 100 million. The hospital provides both medical and surgical oncology services. Reconstructive plastic surgery is an integral part of surgical oncology, and has recently been started as a full time service at Shaukat Khanum. We present an initial audit of plastic and reconstructive surgery procedures being performed here thus far.

**Methods:** A retrospective review was done of all the plastic/reconstructive surgery procedures performed between 1<sup>st</sup> May 2017 and 15<sup>th</sup> Sept. 2017. The procedures were stratified according to type of surgery into several broad categories. The results were also categorized as those performed independently by plastic surgery department, and those done in collaboration with other departments.

**Results:** A total of 144 procedures were performed over the above-mentioned time period. The most commonly performed procedure was skin grafting (n = 36). Flap reconstructions, including both pedicled and free flaps, were done on 27 occasions. Wound related procedures were also quite common (n = 22). The majority of surgeries (n = 93, 65%), were performed in collaboration with other departments, whereas procedures undertaken by plastic surgery alone accounted for approximately 1/3<sup>rd</sup> of all (n = 51, 35%).

**Conclusions:** Reconstructive surgery is often the final step towards wholesome care in surgically treated cancer patients. The plastic/reconstructive surgery service at Shaukat Khanum is gradually being integrated into overall patient care in this hospital, with the aim of continued improvement to be able to cater to a larger number of patients.

048 P

## SURGICAL MANAGEMENT OF GALL BLADDER CANCER- OUR EXPERIENCE

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**Background:** Gall bladder cancer is usually a fatal disease because of its delayed clinical presentation and resistance to chemotherapy and radiation. However studies have shown that radical surgery at early stage is associated with good outcome and better survival.

**Objective:** To study the role of surgery in the management of gall bladder cancer patients treated at our institution.

**Methods:** Medical record of all 59 patients with gall bladder cancer was retrieved who underwent palliative or completion surgery at Shaukat Khanum hospital Lahore. Data was collected regarding patient demographics, tumour characteristics, surgical procedure performed, chemotherapy, recurrence and survival. All data was analysed using SPSS version 20.

**Results:** During the study period of Jan 2006 to Aug 2017, 59 gall bladder cancer patients underwent surgery at Shaukat Khanum hospital Lahore. There were 81% females and 19% males. Mean age of the patients was 58.4%. In 39 (66.1%) patients, gall bladder cancer was diagnosed on histopathology after cholecystectomy for gall stones while in 18(30.5%) patients it was diagnosed on pre-op imaging. In 19 (32.2%) patients, the disease was irresectable. Curative surgery was performed in 8 (13.5%) patients during initial operation. Completion surgery was performed in 28 (47.4) patients including radical cholecystectomy, lymph nodes dissection and segment 4/5 resection. Positive lymph nodes were found in 13 patients who underwent curative intent surgery. Disease recurrence was found in 14 (23.7%) patients. Overall average survival was 21 months. Completion R0 resection, negative lymph nodes status, adjuvant chemotherapy and well differentiated histopathology was associated with increased overall survival.

**Conclusion:** Complete oncological resection is associated with increased survival of gall bladder cancer patients. We recommend that all gall bladder cancer patients should be referred to a specialized hepato-biliary centre for proper management.

## 049 P

## OUR EXPERIENCE OF STAPLED ANASTOMOSIS IN PANCREATICO-DUODENECTOMY AND PALLIATIVE BYPASS SURGERY FOR MALIGNANT TUMOURS

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**Purpose:** The aim of this study was to evaluate the clinical outcomes of gastro-jejunostomy and jejuno-jejunostomy performed using mechanical stapling technique during pancreatico-duodenectomy and palliative bypass surgery, focusing on complications like delayed gastric emptying and anastomotic leakage or bleeding in the early post operative period.

**Methods:** A total of 119 patients underwent classic Whipple's procedure or palliative bypass surgery for ampullary, peri ampullary, pancreatic or duodenal tumours between October 2014 and July 2017. After excluding 11 patients who had hand sewn anastomosis, 108 patients with stapled anastomosis were included in the study. The data was collected retrospectively and was analysed for post-operative complications and mortality.

**Results:** Of the 108 patients who were operated, 80 (74%) underwent pancreatico-duodenectomy and 28 (26%) had palliative surgery due to irresectability or metastatic disease. There was no anastomotic leakage in our study population. There was 1 case of enteric anastomotic bleeding that was managed conservatively and 1 mortality within 30 day post-operative period. 17 patients developed delayed gastric emptying and were managed conservatively. Rest of the details of our study population are described in the table below.

Median age		52 years
Gender	Males	52.8% (57)
	Females	47.2% (51)
Mean BMI		23.95 kg/m <sup>2</sup>
Diabetes		22.2% (24)
Mean pre-operative Albumin		3.92 g/dL
Neo adjuvant chemotherapy		7.4% (8)
Mean operative time		451 minutes
Mean blood loss		325 mL
Median hospital stays		7 days

**Conclusion:** Our retrospective analysis shows that stapled anastomotic technique for gastrointestinal reconstruction is a safe procedure.

**050 P****EXTREMITY SOFT TISSUE SARCOMA****DR MUNIR ALAM, DR AHSAN CHAUDHARY****PLASTIC SURGERY, INDEPENDENT UNIVERSITY HOSPITAL, FAISALABAD. PAKISTAN**

Soft tissue sarcoma are rare mesenchymal malignancies that account for approximately 1% of all cancers in adults and about 10% -15% in children. Extremity soft tissue sarcoma are heterogenous group of tumours that differ in their biological aggressiveness, response to treatment, manifestation site, and cytogenetic background as compared to other malignancies. Historically, the surgical treatment of soft tissue sarcoma do not routinely discuss reconstruction option because amputation was the mainstay of the treatment. The acceptable treatment protocol for extremity sarcoma has evolved to include limb-sparing resection of the tumour in combination with radiation and/or chemotherapy. We have achieved the better results after limb-sparing resections in selected group of patients and improvement in the survival rate. The patients have a better quality of life, superior function, improved self-esteem, and an intact body image. However, amputation is still a recommended surgical option in cases that require the creation of a large defect, early recurrence, infiltration of major nerves, blood vessels, and joints, bony infiltration, severe damage caused by radiation therapy. In our plastic and reconstructive practice, we see patients who had inadequate tumour resection resulting in local/regional recurrence, extensive ulceration, irradiation damage, wound healing disturbances, and functional deficiencies after muscle group resection. We recommend reconstructive plastic surgical procedures for the management of extremity soft tissue sarcoma to avoid limb amputation and less loss of function, where indicated.

51 P

**LAPAROSCOPIC CURATIVE RESECTION FOR RIGHT SIDED COLONIC TUMOURS. INITIAL EXPERIENCE FROM A CANCER HOSPITAL OF A DEVELOPING COUNTRY.****HASAN ALI, IRFAN UL ISLAM NASIR, SHAHID KHATTAK, AAMIR ALI SYED****SHAUKAT KHANUM MEMORIAL CANER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

Surgical site infection is one of the common complications after major surgery. Several risk factors have been studied in detail and among them; post-operative hyperglycaemia is one of the independent risk factor. As there is no local data available, so we decided to do the study with following objective:

**Objectives:** To estimate risk of surgical site infection in patients who had post-operative hyperglycaemia as compared to those who had optimum post-operative glycaemic control after abdominal surgery.

**Materials /methods:** This is the prospective cohort study conducted at Aga Khan University Hospital. This included patients who underwent Exploratory Laparotomy (Complying the inclusion criteria) from Feb 1, 2016 till August 31, 2016 and those who underwent Emergency Laparotomy were excluded. A designed performa was made to collect the data. Sample size was calculated via WHO software and it turned out to be 66 in each group. Both the groups (with post-operative normoglycemia and hyperglycaemia) were compared. SPSS v 20 was used for data entry and analysis.

**Results:** Multiple variables were studied in this study but only ASA level has statistically significant association with post-operative SSI.

**Conclusion:** ASA level is an independent risk factor for SSI in post-operative period and no statistically significant association is established between deranged reflos and SSI.

52 P

## AN EXPERIENCE OF DIFFERENT PROCEDURES OF 78 CHEST WALL MALIGNANT MASSES

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**Objectives:** The study was carried out to share the experience of chest wall resection and reconstruction on 78 malignant chest wall masses and to determine the outcomes of the procedure.

**Study design:** Prospective descriptive study.

**Place and duration of study:** The study was conducted in CMH Rawalpindi and CMH Lahore from Jan 2010 to Aug 2017.

**Material/Method:** Total number of cases operated for chest wall malignant masses were 78. Locoregional recurrent breast tumours and malignant masses of chest wall were included in the study. Metastatic disease was excluded from the study. Resection of malignant chest masses with primary chest reconstruction was done with mesh reinforcement and muscle flap.

**Results:** 78 chest wall malignant masses were included in the study. 53 (67.9%) out of 78 cases were of malignant chest wall masses and 25 (32%) were of recurrent breast carcinomas. 12(15.3%) cases were of Ewing sarcoma, osteosarcoma were 13(16.6%) and chondrosarcomas were 7(6.4%). Transfusion was required in 51(65%) of the cases. There were no perioperative mortality. 14(17.9%) patients had formation of seroma. 8(10.02%) had surgical site infection which was treated conservatively. Ventilatory support was required in 2 patients.

**Conclusion:** Chest wall masses treated with wide excision of chest wall along with ribs, primary reconstruction and prolene mesh augmentation with local muscular flaps can be considered a safe and effective procedure with acceptable morbidity and mortality.

53 P

## APPLYING MULTINATIONAL ASSOCIATION OF SUPPORTIVE CARE OF CANCER INDEX SCORE FOR IDENTIFYING FEBRILE NEUTROPENIA PATIENTS AT HIGH RISK OF COMPLICATIONS

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**Objective:** Multinational Association of Supportive Care of Cancer (MASCC) index score is a clinical tool to predict outcomes in febrile neutropenia patients. This risk-index score has been authenticated in international trials however local data is deficient. We aimed to determine hospital based incidence rate of serious complications in admitted chemotherapy induced febrile neutropenia patients presenting to a tertiary care hospital. We also aimed to compare proportions of serious medical complications in patients having MASCC score  $<21$  or  $\geq 21$ .

**Material/Methods:** A hospital based prospective close cohort study was designed and conducted at Oncology wards of The Aga Khan University from February to August 2014. Total of 88 patients, aged 16 and above, with chemotherapy induced febrile neutropenia were identified and divided on the basis of MASCC Score into low or high risk {exposure} groups. Follow up was done from day of admission (day zero) to discharge. Outcome was assessed in terms of development of serious complications. Hospital based incidence rate was estimated. The associations between outcome and qualitative variables were evaluated by using Pearson Chi-square and Fisher's exact test.

**Results:** Hospital based incidence rate of febrile neutropenia admission was 5.98%, 95%CI [4.88% - 7.08%]. Out of 88 patients with chemotherapy induced febrile neutropenia 85.2% patients were in the high risk group and 14.8% in the low risk group. Serious complications were found in 21.33% and no patients in high and low risk group respectively. Age  $> 60$  ( $p = 0.039$ ), MASCC score  $< 15$  ( $p = 0.002$ ) and an albumin  $< 2.5$  mg/dl ( $p = 0.046$ ) was associated with higher chance of developing serious complications. Sensitivity, specificity, positive and negative predictive value of MASCC score in predicting risk of serious complications was 21.33%, 100%, 100% and 18.06% respectively.

**Conclusion:** MASCC risk-index score is a useful tool to identify patients at low risk of complications. Hospital based incidence rate of serious complications was 18.2%.

**Keywords:** Febrile Neutropenia, Chemotherapy, Serious Complications

54 P

**ANGIOIMMUNOBLASTIC T-CELL LYMPHOMA: A CASE REPORT****JUNAID ASLAM, MICHAEL O'LOUGHLIN****DEPARTMENT OF RADIOLOGY, HARTFORD HOSPITAL, CONNECTICUT, USA.**

**Objectives:** Review and Discuss Angioimmunoblastic T-cell Lymphoma. Clinical presentation of Angioimmunoblastic T-cell lymphoma. Imaging findings and diagnosis of Angioimmunoblastic T-cell Lymphoma. Treatments of Angioimmunoblastic T-cell Lymphoma.

**Material/Methods:** Case Report from archives of Hartford Hospital, and Jefferson Radiology.

**Results:** This Case highlights a case of 78 years old male with prior history of bladder and prostate cancer status post resection who presented with recent history of rash, chills and hot flashes. Initial Chest x-ray was negative but patient continued to have the same symptoms and a CT chest, abdomen and pelvis was ordered which demonstrated diffuse bulky pathologically enlarged lymphadenopathy with associated splenomegaly and bilateral pleural effusions suggestive of lymphoproliferative disease such as lymphoma was raised by radiology. Biopsy was performed of the pathologically enlarged right inguinal node to confirm diagnosis of angioimmunoblastic lymphoma. PET CT scan was done showing the splenomegaly with SUV avid diffuse lymphadenopathy however there was significantly decreased in the number and size of the lymphadenopathy.

**Conclusion:** This case highlights the rare aggressive subtype of a peripheral T-cell lymphoma known as Angioimmunoblastic T-cell lymphoma (AITL), with its presentation and imaging features whiling reviewing the pathogenesis and treatments options. Angioimmunoblastic T-cell lymphoma clinically presents with high fever, fatigue, weight loss, generalized lymphadenopathy, hepatosplenomegaly, polymorphic skin rash, and pleural effusions. The aetiology is still unclear but it has been associated with infection, allergic reaction or drug exposure. The median age of presentation ranges from 62-69 years and a 5-year overall survival rate of 25-40% with patients most often dying from opportunistic infections. There is a broad differential diagnoses including infections, inflammatory, or autoimmune diseases as well as other lymphatic neoplasm. Therefore, a biopsy is required to definitive diagnosis. There are various treatment regimens that have been used over the years with anthracyclin based therapy considered the first line and combination with autologous stem cell transplantation showing increased likelihood of complete remission.

55 P

**STATE OF THE ART - ADAPTIVE RADIOTHERAPY!****QURATULAIN BADAR, <sup>2</sup>HIRA NAZIM, <sup>1</sup>ABNE HASAN, <sup>1</sup>TARIQ SIDDIQUI, <sup>2</sup>ASGHAR HUSSAIN  
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**Objective:** Adaptive radiotherapy (ART) is defined as all processes leading to the modification of a treatment plan due to treatment response or change in patient contour secondary to weight loss observed during the course of a treatment. Because of the greater conformity of 3-DCRT and IMRT, these changes can have more severe dosimetric impact especially for patients receiving curative radiotherapy over 6–7 weeks because it is based on a single anatomical snapshot acquired during the planning CT scan. This issue can be overcome by applying ART which requires the availability of image-guidance using on-board imaging such as kilovoltage (kV) or megavoltage (MV) cone beam CT (CBCT).

**Material/Method:** Retrospective analysis was done for 110 patients who were treated with curative intent from March, 2015 to March, 2017 at our institute on a newly installed TRILOGY. On board imaging with kv cone beam CT (KV-CBCT) was done approximately three times during the course of treatment. Image registration with original planning CT, contours propagation and evaluation of cumulative doses were carried out for every CBCT. Total 180 CBCT were available for review.

**Results:** There were 13 cases of Brain, 36 of Head and Neck, 22 of Thorax, 10 of abdomen and 29 of pelvis. Total 68 (37%) adaptive events were observed out of 180 available CBCT, 44 in H&N, 10 in Thorax and 14 in Pelvis. PTV (mostly PTV-LN) reduction was done in all adaptive events of H&N cases, because of weight loss and tumour shrinkage. PTV reduction was done in thorax cases because the tumour shrinkage was leading to the increase in overlapping lung volume. In pelvis, major discrepancy was observed because of organ motion and PTV modulation was carried out in 6 adaptive events. No adaptation was done in cases of Abdomen. Minor DVH changes seen for OAR's, especially cumulative dose to spinal cord and lung were lower after adaptation.

**Conclusion:** Co registration of CBCT to planning CT for ART is helpful for volume modification, required due to anatomical changes and tumour regression during long course radiotherapy. It provides better conformity for tumour and OAR's which reduces the toxicity especially in head and neck and pelvic malignancies.

56 P

**SMALL CELL CARCINOMA OF THE OVARY, HYPERCALCEMIC TYPE: CASE REPORT OF A RARE TUMOUR****ADEEBA ZAKI, ZARKA SAMOON, BUSHRA KHAN, ROZILLA SADIA, ALIYA AZIZ, ROMANA IDRESS.****DEPARTMENT OF ONCOLOGY AGA KHAN UNIVERSITY HOSPITAL, KARACHI, PAKISTAN**

**Objective:** Small cell carcinoma of the ovary is a rare tumour of the female genital tract with poor outcome. It is important to differentiate between hypercalcemic and pulmonary type. Less than 300 cases have been reported in the literature. In these tumours 65% have hypercalcemia but only 2.5% present with the symptoms of hypercalcemia. Cisplatin and etoposide being the first line chemotherapeutic drugs for small cell lung carcinoma have also been largely used to treat small cell ovarian carcinoma.

**Material/Method:** A 30-year-old female presented with nausea, vomiting and lower abdominal pain. Her abdominal examination revealed a mass measuring 10x10 cm tender & mobile in mid pelvis more towards the left iliac fossa. Her tumour markers AFP, LDH, and CEA were normal; however CA125 was 57.50 iu/ml. Her serum Calcium was 16.5mg/dl. A CT scan of abdomen and pelvis revealed 9.3x10.7x9.7cm left adnexal mass compressing urinary bladder and closely abutting the sigmoid colon, with no lymphadenopathy or distant metastasis. She underwent Total abdominal hysterectomy, bilateral salpingo oophorectomy, total omentectomy and pelvic and para aortic lymphadenectomy . On gross examination, the mass measured 13x11.5x9cm and weighed 660grams. Microscopic examination revealed left ovarian tissue exhibiting a neoplastic lesion composed of sheets of small cells. A panel of IHC staining was performed which was positive for Cam 5.2, CD56, WT-1, CD 10, CD99 and Synaptophysin. IHC staining was negative for EMA, Calretinin, Chromogranin, CD117, CD34 and Desmin .Right ovary, both fallopian tubes, uterus and all lymph nodes were negative for malignancy. There was a single metastatic deposit on the omentum. Morphological and IHC features were consistent with small cell carcinoma of the ovary. Post operatively patient had a smooth recovery. Her serum calcium remained normal. She received 4 cycles of cisplatin and etoposide based chemotherapy. A CT scan of chest abdomen and pelvis two months later revealed no evidence of residual or recurrent disease.

**Conclusion:** Small cell carcinoma of the ovary hypercalcemic type is a rare tumour. No standard management guidelines exist due to its rare and aggressive behaviour.

**Keywords:** Hypercalcemic, ovary, small cell.

57 P

## SINDH CML PROJECT - A MODEL FOR “PUBLIC-PRIVATE PARTNERSHIP” CANCER TREATMENT

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**Background:** In a low resource country like Pakistan where the GDP is low, the cost of treatment especially that of Cancer is becoming increasingly unaffordable for patients. Cancer treatment has always been expensive and seemed to be counter-productive due to a perception of short term survival and compromised quality of life to the patients. With the recent advent of targeted therapies in the last decade, the treatment paradigm has shifted to improve survival thereby improving quality of life. Both the Number of Patients and the increasing cost are becoming a problem and it is becoming imperative to provide the survival benefit to these patients if we want to provide not only to the families but to the nation so that these patients who are in productive stages of life can contribute to the country economy. That is why we believe that a **Private Public Partnership** is necessary step to fight this challenge.

**Problem: Cancer** is growing rapidly because of infections, tobacco abuse (Cigarettes, Pan, Ghutka) and unhygienic condition (Aflatoxin) especially Colorectal cancers (due to junk food), Breast cancer (early menarche and late menopause) & Blood Cancer. But with the grace of Almighty Allah, we have now targeted therapies in order to treat these deadly diseases. **Chronic Myeloid Leukemia (CML)** is a form of Blood cancer that generally affects the age group of 45–55 years internationally but in Pakistan the age group affected is 35-45 years thus by affecting the working class of the nation hence hampering the economic status and contributing to poverty. Treatment of cancer is expensive which further exacerbates the people’s poor conditions. There are more than 1400 patients of CML currently documented in Sindh to date from with expected diagnosis of 200 new patients every year.

Imatinib and Nilotinib are the preferred treatment options recommended by the NCCN and the ELN guidelines for the treatment of CML and is included in the essential medical list by the WHO. But unfortunately due to nonexistent health insurance or social security the drug is mainly out of reach for these patient. **Assessment and Analysis:** Since the Pakistani economy is primarily self-pay where the patient purchases medicine out of his own pocket; therefore, access to costly medicine is not possible for majority of the patients. Despite the fact that a patient access program was initiated by Novartis, manufacturer of Imatinib (Glivec) but due to reasons mentioned above these CML patients were deprived of an essential medicine to restore their health and prolong their life span. **Intervention:** Keeping the Sindh Health strategy 2020 in mind, we discussed in core committee meetings again and again to sort out the solution & then decided to approach the manufacture of the drug for the benefit of needy cancer patients. A proposal was then submitted by Novartis Pharma (Pakistan) Ltd. to the Government of Sindh, Pakistan, for providing Imatinib (Glivec) to CML patients by entering into a joint venture. Hospital administration, Oncologists and pharmacy staff of the hospital were included in the stake holders who were engaged in the negotiation process and approved the overall mechanism of partnership. A public-private partnership agreement was entered into by the Government of Sindh and Novartis where by, for the first five years, Government will pay for 2 months cost of medicine while Novartis will pay for 10 months cost of medicine. After a period of 5 years, the Memorandum of Understanding would be renegotiated to provide maximum benefit to patient on mutually agreeable terms.

**Conclusion:** Since April 2012 till date, 1492 patients from all over the province have been enrolled receiving treatment free of cost. Half of our patients (54%) were between 16-45 years showing that CML affects our population in most productive time of their lives. After a period of four year, detection of bcr-abl signal was carried out in 781 patients using RT-PCR. Side-effects were manageable in majority of the patients. After a follow-up of 0.5 to 4 years, 88% were alive, living a healthy and normal life and contributing to family and national income. An effort was done to build a dedicate cancer ward in the Civil Hospital, and from 0 bed we managed to build a 52 bed specialized cancer ward with the help of the Private Public Partnership. Keeping the cause in our mind we have conducted several peripheral OPDs in different districts of Sindh and along with free consultation we provided nutritional support along with the drugs at their door step. **Conflict of interest:** This is a special initiative between Government of Sindh, Pakistan and Novartis Pharma (Pakistan) Limited.

58 P

**IMPACT OF BASELINE PROGNOSTIC FACTORS ON THE OUTCOME OF EARLY STAGE PEDIATRIC HODGKIN LYMPHOMA IN A TERTIARY CARE CANCER CENTER.****SINDHU II, <sup>1</sup>MAHREEN A, <sup>1</sup>WALI RM, <sup>2</sup>RIAZ S, <sup>1</sup>ASAD M.****<sup>1</sup>DEPARTMENT OF PEDIATRIC ONCOLOGY & NUCLEAR MEDICINE. SHAUKAT KHANUM CANCER HOSPITAL AND RESEARCH CENTRE LAHORE, PAKISTAN.**

**Purpose-** Paediatric Hodgkin lymphoma has the good outcome after treatment. Cure rates approach to 80-90%; however, 15-20% of patients will have resistance to therapy or relapse after treatment. Prognostic factors help risk stratify treatment and identify patients at risk for failure. Early stage disease is limited to Stage I and II. A number of factors can affect the prognosis for these patients which include the presence of systemic symptoms (i.e., fevers, drenching night sweats, or significant weight loss), a very high erythrocyte sedimentation rate, an increase in the number of nodal sites involved, older age, and a large mediastinal mass. The aim of this study is to see our institutional experience on the impact of 3 baseline prognostic factors; B symptoms, ESR, Bulk Volume of >200ml on the outcome of Early Stage Pediatric Hodgkin Lymphoma.

**Methods:** Medical records at a large regional cancer centre from April 2012 to October 2015 were retrospectively collected after IRB approval. Data was reviewed for patients with newly diagnosed Hodgkin lymphoma on histopathology and less than 20 years of age at the time of diagnosis.

**Results:** A total of 117 patients were included, these were all stage I&II. All were treated with 2 cycles of COPDAC/ABVD. B symptoms were positive in 22 patients (18.8%), ESR >30 in 35 patients (29.9%) and Bulk volume > 200ml in 9(7.7%). The number of relapses were 7 (6%), out of which 2 (28%) had positive B symptoms, 1 (14%) had bulk volume > 200ml and 3 (42%) had ESR > 30. Two patients died (1.7%) and 115(98.3%) are alive in remission. P value for all factors was not significant. Forty month EF was 93% and OS was 98%

**Conclusion:** This study shows that there is no impact of baseline prognostic factors on the EFS and OS of patients with early stage (I&II) Hodgkin lymphoma.

**Key Words:** Hodgkin lymphoma, Prognostic factors, B symptoms, ESR, Bulk volume, outcome.

59 P

## OVEREXPRESSION OF EGFR IN ORAL PREMALIGNANT LESIONS AND OSCC AND ITS IMPACT ON SURVIVAL AND RECURRENCE

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**Objective:** Oral squamous cell carcinoma (OSCC) the sixth leading cancer worldwide ranks as the most common cancer in males, and the third most common in females in Pakistan. It is influenced by risk factors which are widely consumed in our population. The epidermal growth factor receptor (EGFR) is a tyrosine kinase receptor that is imperative for cell signalling, growth and differentiation. It is mutated and overexpressed in a variety of cancers, while in OSCC it has been linked to poor patient survival; premalignant to malignant transformation and recurrence. This study investigates the use of EGFR as a prognostic factor for OSCC.

**Materials and Methods:** Premalignant (n=29) and OSCC (n=100) formalin-fixed paraffin-embedded tissues were retrieved from the surgical archives of Aga Khan University Hospital (AKUH). Immunohistochemistry for EGFR overexpression was performed using monoclonal antibody on both groups. EGFR expression was correlated with habits of risk factor consumption, clinicopathologic features and 5-year survival and recurrence.

**Results:** 15/29 premalignant and 67/100 OSCC patients had overexpressed EGFR. The upper/lower lip had the highest EGFR positivity among all premalignant sites of lesion (p=0.041). In OSCC patients, those who had EGFR overexpression had worse 5-year survival (univariate: p=0.048, multivariate: p=0.056) and higher chances of recurrence (univariate: p=0.01, multivariate: p=0.004) as compared to EGFR negative patients.

**Conclusion:** EGFR is a viable candidate for an OSCC prognostic marker since its overexpression leads to poor survival and markedly increases the chances of recurrence.

### KEYWORDS:

5year survival, EGFR, immunohistochemistry, oral premalignant lesions, OSCC

60 P

## RISE IN SEX HORMONES FACILITATES REPLICATION OF VIRUSES, DEVELOPMENT OF CANCER, AND AUTOIMMUNE DISEASES:

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The concentration of sex hormones in plasma elevate than the normal level after sexual activity. These small rises in sex hormones help in supporting viral replication and cancers. In this review we described the genomic and non-genomic effects of sex hormones on suppressing immune system, enhancing viral replication, metastasis and angiogenesis in cancer and the expression of endogenous retro-viruses. It is clear from the existing literature that how androgen and estrogen receptors in the cytoplasm activate the molecular chaperones heat shock proteins 90 and 70 genomically and non-genomically which are considered the best targets for viral and cancerous diseases. The global hypomethylation observed in cancer is due to over expression of sex hormones for decades and other UV reactive oxygen and nitrogen species and gamma rays insults. Most of the proto-oncogenes and the most pathogenic family of human endogenous retrovirus-K are activated directly by the androgen and estrogen receptors carrying the androgen and estrogen response element in their Long Terminal Repeats.

Keywords

Sex hormones, Hypomethylation, proto-oncogenes, Androgen receptor, Estrogen receptor, Immune system, Cancer, Heat shock protein 90, Stat3 and Human Endogenous Retroviruses.

61 P

## UNEXPLAINED ACUTE DECLINE IN RENAL FUNCTION IN TWO CANCER PATIENTS RECEIVING GEMCITABINE: DRUG INDUCED THROMBOTIC MICROANGIOPATHY

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**Abstract:** We present here two patients with urological and pancreatic malignancies who developed Microscopic angiopathic haemolytic anaemia (MAHA) and acute kidney injury (AKI) after receiving Gemcitabine which is a rare complication of Gemcitabine treatment (<1%).

**Case-1:** A 39 year old male with previously resected adenocarcinoma of pancreas received Gemcitabine a month ago, presented to emergency room (ER) with nausea, vomiting and bilateral leg swelling. His laboratory work-up revealed anaemia, AKI, raised Lactate dehydrogenase (LDH), fragmented red blood cells (RBCs) and schistocytes on peripheral blood smear. Urinalysis showed 3+ blood and 3+ protein. Clinical and laboratory findings were consistent with MAHA most likely related to recent use of Gemcitabine. Patient was treated with five daily sessions of plasmapheresis, comprising of FFP and Saline with improvement of serum LDH, disappearance of RBCs fragments and schistocytes but his renal function remained static. Patient was discharged on tapering dose of steroids as there was no evidence of ongoing haemolysis and outpatient follow up planned with nephrologist and oncologist.

**Case-2:** A 42 year old male with known case of metastatic urothelial carcinoma, single functioning kidney and consequent chronic kidney disease (CKD) stage- 3 presented to the ER with fever and dry cough, five days after completion of a course of Gemcitabine based chemotherapy. His laboratory work up was consistent with AKI and MAHA associated with the use of Gemcitabine. This patient received seven sessions of plasmapheresis with intermittent haemodialysis but continued to have progressive decline in renal function despite absence of ongoing haemolysis following plasmapheresis.

Gemcitabine induced MAHA is often difficult to diagnose because of its variable clinical course. Unfortunately, some patients who develop nephrotoxicity will be left with long-term complications. Therefore, heightened awareness of this potentially lethal complication of gemcitabine is essential. Low threshold to identify MAHA, targeted treatment, and supportive care are critical to improve morbidity and mortality in these patients.

62 P

## THE CHARACTERISTICS AND SURVIVALS OF GASTROINTESTINAL NEUROENDOCRINE TUMOURS, A SINGLE CENTRE EXPERIENCE FROM PAKISTAN”

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**Introduction:** Gastrointestinal neuroendocrine tumours (GINETs) are a heterogeneous group of tumours with variable behaviours. We analysed baseline characteristics and outcomes of GINETs and impact of the tumour grade on the overall survival.

**Objective:** To evaluate Characteristics and survivals of gastrointestinal neuroendocrine tumours, at a single centre from Pakistan.

**Materials and methods:** We retrospectively studied baseline characteristics of 85 patients registered at our institute with the diagnosis of GINETs from January 2006 to January 2016. The impact of the tumour grade was seen on the OS.

**Results:** Of the 85 included patients there were 60 (70.6%) males and 25(29.4%) females. The mean age at presentation was 51 years. Grade I, II, III tumours were 61.2%, 11.8%, 27.1%, respectively. The most commonly involved site was pancreas 48.2%. Localized vs. metastatic disease was seen in 68.2% and 31.8%, respectively. 81 patients were sporadic NETs while 4 patients had features of MEN I Syndrome. Asymptomatic, carcinoid syndrome and symptoms related to disease site were seen in 22.4%, 10.6% and 67.1% respectively. The OS was 26.36 months. Patients with grade I, Grade II and III tumours had OS of 36.27, 28.89 and 13.92 months, respectively. Small number of patients received targeted therapies due to cost issues.

**Conclusion:** GINETs are rare tumours with good outcomes in grade I and II, and poor outcome in grade III. The characteristics and long term outcome in our study is comparable to other reported studies .

**Keywords:** neuroendocrine tumours, retrospective studies.

63 P

**GASTROINTESTINAL STROMAL TUMOUR PRESENTING AS GIANT INTRA-ABDOMINAL CYST: A CASE REPORT**

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**Introduction:** Gastrointestinal stromal tumours is a relatively common mesenchymal tumour of gastrointestinal tract. It usually presents as solid neoplasms. Cystic presentation of gastrointestinal stromal tumour is a rare finding and relatively uncommon presentation. We encountered a rare case at Shaukat Khanum Memorial Cancer Hospital and Research Centre (SKMCH & RC) and diagnose it as cystic GIST.

**Case report:** A 24 year old male presented with a history of progressively increasing abdominal distension. Radiological examination reveals a huge cyst in the mesentery of small bowel. Excision of the specimen was done and sent to the pathology department of SKMCH & RC. Grossly, it was a unilocular cyst weighing 3830 grams and measuring 30cm X 24cm X 20cm. On microscopic examination, the cyst wall showed spindle cell proliferation, staining positive for DOG 1, CD117 and focal positivity for desmin with a mitotic count of <5/50 HPF. A final diagnosis of cystic GIST was made.

**Comments:** Gastrointestinal stromal tumours commonly presents as solid neoplasms mesenchymal tumour of gastrointestinal tract. Cystic presentation is rare, as it mimics with benign intra-abdominal cystic lesions like mesenteric and duplication cysts, pancreatic pseudocyst, cystic schwannoma. Since behavior and management of GIST is entirely different from above mentioned lesions, therefore, correct identification of GIST is very important.

## 64 P

**CLINICAL OUTCOME OF OSTEOSARCOMA IN CHILDREN: EXPERIENCE FROM A DEVELOPING COUNTRY****SYED ALI SHAZIF BAQARI, HALEEMA SAEED, ARJUMAND ALI ARSHAD, RABIA MOHAMMAD WALI, SAADIYA JAVED KHAN****DEPARTMENT OF PEDIATRIC ONCOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL & RESEARCH CENTRE, PAKISTAN**

**Objective:** Osteosarcoma is the most common bone tumour in children. There is limited information about outcome for paediatric osteosarcoma in Pakistan. We conducted this study to determine the outcome of children with osteosarcoma who were diagnosed and treated in our institution over 10 years.

**Materials /Methods:** We conducted a retrospective chart review of patients with osteosarcoma who received treatment at our institution between January 2005 and December 2014. Kaplan-Meier analysis was used for survival analysis using SPSS version 19.

**Results:** Osteosarcoma was diagnosed in 225 patients out of which 77 patients (34.2%) abandoned treatment within first 3 months of diagnosis. The final study population was 147. All patients received treatment with Cisplatin, Doxorubicin and Methotrexate as per Euromos 1 protocol. Mean age at diagnosis was 13.6 years (SD +/- 3.2). Male to female ratio was 1.7:1. 120 patients (81.6%) had non-metastatic disease. 131 (89%) had lower extremity, 14 (9.5%) upper extremity and 2 (1.4%) had axial involvement. There were 28 (19%) mortalities (16 from disease progression, 8 from infectious complications and 4 from cardiac complications). 29 patients (19.7%) had disease progression during treatment while 24(16.3%) relapsed after end of treatment.

The overall survival (OS) and event free survival (EFS) for entire population at eight years was 70% and 40% respectively with median follow-up of 43 months. For metastatic and non-metastatic cases the OS and EFS were 57% and 72% and 19% and 52% respectively. None of the patients with axial tumour survived. For upper extremity and lower extremity tumours OS and EFS were 92% and 68% and 59% and 41 % respectively. There was no difference in survival based on gender.

**Conclusions:** Survival for osteosarcoma is about 70% but EFS is lower than expected. Measures to improve care for infections and cardiac complications can improve these outcomes. Efforts to reduce abandonment are also needed.

65 P

**BETA-CATENIN EXPRESSION IN MEDULLOBLASTOMA REAPHARASAL /  
RECLASSIFICATION OF MEDULLOBLASTOMA ACCORDING TO THE NEW 2016 WHO  
CLASSIFICATION****ZARA SAEED****SHAUKAT KHANUM CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

**Introduction:** Medulloblastoma is the most frequent malignant paediatric embryonal tumour of cerebellum. The activation of Wnt/ $\beta$ -catenin signalling pathway has been described as a favourable outcome in medulloblastoma patients. The Wnt/ $\beta$ -catenin pathway plays a crucial role in CNS development and particular in cerebellar development.  $\beta$ -catenin positivity in Wnt pathway subtype of medulloblastoma is a good prognostic factor and helps in better treatment and management of patient.

**Objective:** The main objective of this study is to study paediatric group medulloblastoma patients diagnosed At Shaukat Khanum Memorial Cancer hospital For firstly improving surgical and secondly, reducing long term treatment toxicities.  $\beta$ -catenin nuclear expression act as a downstream effector of Wnt/ $\beta$ -catenin pathway which is associated with a favourable outcome and better survival of patient. Therefore, activation of Wnt/ $\beta$ -catenin pathway represents a distinct molecular subgroup.

**Operational definition:** Nuclear positivity of  $\beta$ -catenin will be considered as a positive result.

**Study design:** Cross-sectional study

**Materials and methods:** Total cases of 60 paediatric group (1yr-10yr) were retrieved from a computerized database diagnosed between 2011-2017years. In order to evaluate positive nuclear expression in paediatric group medulloblastoma.  $\beta$ -catenin immunohistochemical stain will be performed on all cases(one representative block of each case).The results will be analysed as strong nuclear positivity, focal nuclear positivity and negative cytoplasmic expression.  $\beta$ -catenin results will be further correlated with age, morphology and molecular group for classifying into new WHO classification.

66 P

**OUTCOMES OF REFRACTORY AND RELAPSED HODGKIN'S LYMPHOMA WITH AUTOLOGOUS STEM CELL TRANSPLANTATION: A SINGLE INSTITUTION EXPERIENCE****WALI RM, SAEED H, PATRUS N, JAVED S, KHAN SJ****PEDIATRIC ONCOLOGY DEPARTMENT, SHAUKAT KHANUM CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

**Objective:** Hodgkin Lymphoma (HL) is the most common cancer in children, adolescents and young adults with a peak incidence between the ages of 20 and 34. The overall survival (OS) rate of newly diagnosed HL is approximately 80–90%. However, a subset of these patients with HL has refractory disease to first line therapies or experience disease relapse. For these patients, conventional salvage therapies and autologous stem cell transplant is often considered the standard of care. Our analysis reports outcomes in these patients.

**Methods:** A retrospective analysis was done on patients with Hodgkin's Lymphoma who had refractory or relapsed disease at SKM from September 2009 till December 2013 after IRB approval. Patients who had high dose chemotherapy followed by stem cell rescue were selected for this analysis.

**Results:** A total of 567 patients were registered at the Hospital. Sixty (10.6%) of the patient had either Primary Progressive/Refractory disease or Relapse after finishing with first line chemotherapy. High dose chemotherapy followed by stem cell was given on 25 patients (42%). Thirteen patients had PD (40%), 5 had early relapse (22%) and 7 had late relapse (38%). A number of salvage regimens were used which included EPIC, DHAC and Gemcitabine/Vinorelbine. Re-evaluation was done before taking patients to high dose and showed CR in 17 (68%), PR in 6 (24%) and PD in 2 (8%) patients. Twenty one patients (84%) are in remission after transplant with 2 (8%) dead due to septicemia and 2(2%) patients progressed after treatment. Overall survival is 95% at 4 years with event free survival of 80% at 4 years.

**Conclusion:** Our retrospective analysis shows good outcomes in patients who had progressive refractory and relapse disease. Survival is superior in chemo sensitive disease.

**Keyword:** Autologous stem cell transplant, outcomes

*EPIC- Etoposide, Prednisolone, Ifosfamide and Cisplatin. DHAC- Dexamethasone, Ara-C and Carboplatin*

67 P

## MANAGING PERITONEAL SURFACE MALIGNANCIES - ONE YEAR EXPERIENCE OF A NEWLY ESTABLISHED SERVICE IN A DEVELOPING COUNTRY.

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**Introduction:** Peritoneal surface malignancies comprise a heterogeneous group of cancers from different cells of origin that involve the peritoneal cavity. The diagnosis, evaluation and management of these cancers require unique expertise and skills. We report our one year experience of establishing a peritoneal surface oncology service.

**Methods:** A Surgical Oncology service with interest in management of PSM was established one year ago. Sources of referral were within hospital as well as from Medical Oncology community.

**Results:** Between September 2016 and August 2017, a total of 26 patients were referred with peritoneal surface malignancies. There were 6 colorectal cancers, 3 upper GI cancers, 9 gynecological cancers, 2 pseudomyxoma peritonei, 4 cases of mesothelioma and 2 patients with unknown primary. Of these, Cytoreductive surgery (CRS) was performed in 5 patients, of which 3 patients also received Hyperthermic Intraoperative Peritoneal Chemotherapy (HIPEC), while two more patients have been scheduled for CRS and HIPEC. One patient underwent CRS+ HIPEC outside country. Six patients were offered evaluation for surgery but refused/ lost to follow up. Six patients were not considered fit for Cytoreductive surgery and four patients were not considered suitable for surgery due to disease extent. One patient following CRS and HIPEC developed localized extraperitoneal recurrence which was excised.

**Conclusions:** We present our experience of establishing a peritoneal surface malignancy. Over the first year of service there were 26 referrals from various sources and represented full spectrum of cells of origin. Multidisciplinary care and team work helped to develop awareness about the service. 13 cases (50%) were considered suitable for surgery of which 5 were performed by our service and two are scheduled for surgery.

68 P

**MAKING HYPERTHERMIC INTRAOPERATIVE PERITONEAL CHEMOTHERAPY AFFORDABLE - LOCAL MODIFICATIONS FOR RESOURCE LIMITED SETTING****RAZA SAYYED<sup>1</sup>, SAMIULLAH NIAZI<sup>2</sup>****<sup>1</sup> SURGICAL ONCOLOGIST, PATEL HOSPITAL, KARACHI****<sup>2</sup> ASSISTANT PROFESSOR, LIVER TRANSPLANT AND HEPATOPANCREATOBILIARY UNIT, DOW UNIVERSITY OF HEALTH SCIENCES, KARACHI**

**Introduction:** Hyperthermic Intraoperative Peritoneal Chemotherapy (HIPEC), along with cytoreductive surgery (CRS) is considered standard of care for some peritoneal surface malignancies (PSM) and is recommended in selected patients in majority of PSM. The operative management of these cancers with CRS and HIPEC entails significant costs. The HIPEC machines cost between \$50000 and \$75000 with the disposables cost of around \$1200. We report our unit's local modification which can help reduce costs associated with HIPEC procedure.

**Methods:** A Cardiopulmonary Bypass machine is used with a local modification in circuit that allows delivery of intraperitoneal chemotherapy at desired temperatures.

**Results:** With the suggested local modification, the desired intraperitoneal temperature of above 42°C was consistently achieved. The cost of local modification was \$90. The cost of disposables was <\$400 with no additional cost for purchasing a HIPEC machine.

**Conclusions:** Using the cardiopulmonary bypass machine and a local modification of the circuit, HIPEC can be provided in resource limited settings at affordable costs.

69 P

## OUTCOME OF AUTOLOGOUS BONE MARROW TRANSPLANT IN LYMPHOPROLIFERATIVE MALIGNANCIES AT AGA KHAN HOSPITAL: THIRTEEN YEARS' EXPERIENCE

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INSTITUTION: ??

**Background & Objective:** Intensive chemotherapy followed by autologous stem cell transplant is the treatment of choice for patients with relapsed or refractory lymphoma and multiple myeloma. The objective of this study was to evaluate the outcome of patients with relapsed or refractory Non-Hodgkin's lymphoma, Hodgkin's lymphoma and multiple myeloma after autologous stem cell transplant.

**Subjects and Methods:** All patients who achieved 25% - 50% reduction in the disease after salvage therapy were included in the study. Pre-transplant workup consisted of complete blood count, evaluation of liver, kidney, lung, infectious profile, chest, paranasal sinus roentgenograms and dental review. Mobilization was done with Cyclophosphamide followed by G-CSF 300µg twice daily. The conditioning regimens included Carmustine, Etoposide, Cytarabine and Melphalan was used in lymphoma (Hodgkin's and non-Hodgkin's both). Similarly high dose Melphalan was used as a conditioning regimen in multiple myeloma.

**Results:** A total of n=91 transplants were done from April 2004 – August 2017. 39 patients underwent autologous transplants for Hodgkin's and 31 were non-Hodgkin's lymphoma. 21 patients were belonged to myeloma group. Different salvage therapies included DHAP, ICE and ESHAP. A mean of  $4.7 \times 10^8 \pm 1.7$  mononuclear cells/kg were infused (range:  $2.2-10 \times 10^8$ /kg). The median time to WBC recovery was 17 days (range: 12-32 days). 100 days transplant related mortality was present in twenty one patients (23%).

**Conclusion:** High dose chemotherapy followed by autologous stem cell transplant is an effective treatment option in patients with relapsed/refractory lymphoma and myeloma allowing further consolidation of response attained by salvage therapy.

70 P

**COMPARISON OF EARLY AND ADVANCED STAGE PRIMARY MUCINOUS VERSUS SEROUS EPITHELIAL OVARIAN CARCINOMAS WITH REGARD TO CLINICOPATHOLOGICAL CHARACTERISTICS, ONCOLOGICAL AND FERTILITY OUTCOMES****AYESHA SABA , ALIYA B AZIZ, SHEIKH IRFAN, ROMANA IDRESS, ROZILLA SADIA KHAN, BUSHRA KHAN, AMBER AHMED****DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY & DEPARTMENT OF HISTOPATHOLOGY  
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**Objectives:** To compare clinicopathological characteristics, oncological and fertility outcomes of patient with early and advanced stages of primary mucinous (mEOC) versus serous epithelial ovarian carcinoma (sEOC).

**Methods:** A retrospective analysis of 61 Patients with early and advanced stage primary mucinous and serous epithelial ovarian carcinomas treated between 2008 and 2014 in Aga Khan University Hospital, Karachi was performed.

**Results:** A total of 61 patients were included in study; 88% women had sEOC and 11.4% women had mEOC. Mostly patient presented in stage IIIC 40(74%) in sEOC while patients with mEOC presented in early stage i.e, stage IC 3(42.9%), stage IA 2(28.6%), stage IIA 1(14.3%) and only one patient presented in stage IIIC 1(14.3%) (P value 0.001). Preoperative CA125 level was elevated in both sEOC 40(74.1%) and mEOC 4(57.1%). Ascites was a common feature in both sEOC 39(72.2%) and mEOC 6(85.7%). Mean Progression free survival in patients with sEOC was 23.9 months while 27.2 months in mEOC. Mean Overall survival in patients with sEOC was 33.7 months while 28 months in mEOC. Adjuvant chemotherapy was received by most of the patients in both groups sEOC 52(96%) and mEOC 6 (86%) (P value 0.025). There was one mortality noticed out of 54 cases in patients with sEOC while no mortality found in patients with mEOC. Only one patient who had stage IA Grade 3 primary serous ovarian carcinoma underwent fertility sparing surgery(FSS). She conceived after three months of FSS and delivered at term 38 weeks by elective LSCS. Outcome was alive baby girl 3.1 kg with APGARS 8/1,9/5. No patient with primary mucinous ovarian carcinoma underwent FSS.

**Conclusion:** Primary mEOC are frequently present in early stage and have excellent prognosis compared to primary sEOC. Conservative treatment in both early stage mucinous and serous epithelial ovarian carcinomas in women of child bearing age should be offered in stage I, grade 1, 2 and 3.

**Keywords:** Mucinous epithelial ovarian cancer, Serous epithelial ovarian cancer, Survival outcome, Prognosis



**71 P****GROWING TERATOMA SYNDROME IN OVARIAN GERM CELL TUMOURS - A DIAGNOSTIC CHALLENGE TWO CASE REPORTS****AYESHA SABA 1, ROZILLA SADIA KHAN 2****DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY  
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Growing teratoma syndrome (GTS) is a rare complication of ovarian germ cell tumours and occurs in young age group. It is characterized by clinical or radiological increase in tumour size during or after chemotherapy, with normalization of tumour marker levels. Histopathological tissue growth post chemotherapy is a mature teratoma without any malignant component. Mainstay of treatment is surgical excision of the disease to prevent progression of tumour as mature teratomas are resistant to both chemotherapy and radiotherapy. Diagnosis is a challenge as disease recurrence or chemo-resistance can be difficult to distinguish. Benign nature of this disease entity is essential to avoid overzealous chemotherapy or radical surgery.

**KEYWORDS:** chemotherapy retroconversion, germ cell tumour, growing teratoma syndrome.

72 P

## DOSIMETRIC EVALUATION OF DOSE PAINTED PROSTATE CANCER PLANS DELIVERED THROUGH RAPIDARC TECHNIQUE

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**Objective:** Precise delivery of radiation dose to target volume is often made complicated by the tumour heterogeneity. For this purpose, dose painting (DP) concept was employed in this exploration to deliver inhomogeneous dose to heterogeneous target.

**Material/Method:** A cohort of 9 prostate cancer patients who were planned to undergo rapidarc (RA) radiotherapy with single arc rotation of 360 degree using 15MV beam, were brought under this investigation. 5 patients had two dose prescriptions 74Gy and 56Gy to their planning target volumes (PTVs). Remaining 4 patients were prescribed with 60Gy dose to PTV. CT scans were obtained and exported to eclipse treatment planning system using AAA algorithm software for generating treatment plans. RA plans based on dose painting by contours (DPBC) were evaluated by homogeneity indices HI1, HI2 and HI3. Modified indices like index of achievement (IOA), index of hotness (IOH) and index of coldness (IOC) with voxel-specific weighting factor were computed by MATLAB software to evaluate dose painting by numbers (DPBN) plans.

**Results:** RA plans involving DPBC, HI1 mean for PTV74 and PTV56 was 8.37% and 33.84% respectively. For PTV 60, it was 12.29%. This indicated better homogeneity of dose distribution for PTV74. HI2 and HI3 mean values for PTV74 were 1.073 and 1.066 and for PTV56 were 1.33 and 1.39 respectively. For PTV60, HI2 and HI3 were 1.107 and 1.069. DPBN based RA plans showed IOA, IOH and IOC mean values of 1.04, 1.033 and 0.984 for group of patients with PTV74 and PTV56. IOA, IOH and IOC for patients with PTV60 were 1.016, 1.013 and 0.987. This showed that planned and prescribed doses deviated from each other by less than 5%.

**Conclusion:** Rapidarc technique with DP plans of prostate cancer gave a satisfactory compromise between planned and prescribed dose distribution. Healthy organs like rectum, bladder and femoral heads are at the risk of receiving lethal doses. RA plans can further be optimized by introducing dose constraint painting with voxel-specific weighting factor for normal structures. It is recommended that these modified indices must be applied to radiotherapy plans of other tumour sites using different beam energies.

**73 P****OBJECTIVE: ONCOLOGICAL OUTCOMES WERE ASSESSED RETROSPECTIVELY IN CASES OF ENDOMETRIAL SARCOMA MANAGED AT SHAUKAT KHANUM HOSPITAL.****SHALLA ALI****DEPARTMENT OF SURGICAL ONCOLOGY, SHAUKAT KAHNUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE PAKISTAN**

**Abstract :** Endometrial stromal sarcomas are rare gynecological malignant tumours arising from the uterine stroma. There are hormone sensitive tumours that form a spectrum from benign tumours with good prognosis to malignant tumours with poorer prognosis. There are no reports from this rare malignancy from Pakistan. We report experience with of Endometrial Stromal Sarcoma that presented to our institution between 1995 to 2017 . Total number of cases were 33 .Mean Age was 40 years. There were 36% patients who had stage I disease compared to 10% with Stage II, 41% with Stage III and 23% with Stage IV disease. Median follow-up duration was 19 months. Clinicopathological characteristics, treatment modalities used and oncological outcomes of these tumours was assessed.

**74 P**

## CARDIOTOXICITY WITH CISPLATIN BASED CHEMOTHERAPY; A CASE - SERIES OF 4 PATIENTS AT SKM -

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**Abstract:** Cardiotoxicity with the use of Cisplatin based chemotherapy regimen has been observed in a number of cases. The Cardio-toxic manifestations of the drug are multiple. We present a retrospective review of 4 cases of Acute Coronary Syndrome (ACS) in whom Cisplatin-based cardiotoxicity has been implicated. Three of the four patients reported here had acute ST elevation myocardial infarction, while one patient suffered from acute coronary vasospasm. The events in all these cases were managed conservatively, and none proved fatal for the patient.

Acute ST elevation myocardial infarction is known, however, less frequently reported cardio-toxic effect with cisplatin chemotherapy. Cisplatin can cause acute cardiotoxicity, including myocardial infarction and coronary vasospasm, and needs to be known to clinicians working in cancer setups. Patients receiving cisplatin should be evaluated for early detection and timely management of any acute cardiac event, and may benefit from pre-chemotherapy screening for cardiovascular risk factors.

Keywords: cisplatin, cardiotoxicity, chemotherapy-induced, myocardial infarction.

**75 P**

**ERHEIM CHESTER DISEASE- A CASE REPORT**

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**Background:** Erdheim Chester Disease is a rare, chronic, multisystem, idiopathic disease showing association with BRAF V600E in almost half of the cases. Its diagnosis is usually delayed for many years before coming to clinical attention. Although it has an indolent course but in advanced stages can show fulminant behavior due to multiple vital organ involvement. It has a characteristic radiological appearance. It is a class IIa, non-Langerhans cells histiocytosis with foamy macrophages visible on histopathology, which are CD-68 positive.

**Case History:** This case report describes a 59 years old female with long standing history of multiple comorbidities who presented with history of complete heart block, retroperitoneal fibrosis and retroconal masses. Before presentation to medical oncology her Positron Emission Tomography (PET) scan was suspicious for Erdheim Chester syndrome. Later a biopsy confirmed the above diagnosis. Although she had advanced disease with multisystem involvement, impairing quality of life at presentation, she was managed with interferones to which she kept on showing good response. Later, she succumbed to her disease after almost three and half years of therapy.

**Conclusions:** Erdheim Chester Disease is a chronic, multisystem, disease which requires high index of suspicion for diagnosis. Advanced debilitating symptoms can be ameliorated with effective treatment.

**Key words:** Erdheim Chester Disease, Non Langerhans histiocytosis, Multisystem disease, Interferones

76 P

## LIVING WITH BREAST CANCER: EXPERIENCES OF PAKISTANI WOMEN ON CHEMOTHERAPY

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**Objectives:** Women issues and concerns have gained increasing attention in the last decade in Pakistan. Its' women population is not spared from breast cancer since the incidence is rising here as everywhere worldwide.

The central objective of this study is to explore the lived experience of Pakistani women with breast cancer and on chemotherapy across the different treatment and breast cancer stages using the phenomenological approach

**Method:** Eight in-depth interviews were done with the interview guide as a tool to patients sampled purposively. They were in the oncology unit of a tertiary hospital and a hospice in Karachi. Van Manen's methodological interpretations guided the data analysis. The sequence of events as experienced by the participant was clustered into categories and themes.

**Results:** The participants experienced feelings of numbness, realization of death, denial, helpless, personal and spiritual coping, understanding, acceptance, and resignation. Threaded through all of their experience was a feeling of depression.

**Conclusion:** Health professionals would get a deeper insight and a clearer understanding of breast cancer patients within the cultural context of Pakistan. Quality holistic care would then be provided. It is recommended that data gathered from this study may be used to develop stronger patient support and education and lead to further research.

77 P

**MUCOEPIDERMOID CARCINOMA OF THE PAROTID GLAND IN CHILDREN****DR. SAAD JAMAL, DR. ABDUL HAFEEZ LAKHAN, SHABBIR HUSSAIN, OSMAN JAMI, JAWAID MALLICK****DEPARTMENT OF RADIATION ONCOLOGY, ZIAUDDIN UNIVERSITY HOSPITAL KARACHI**

**Introduction:** Neoplasms of salivary glands are rare in children, representing fewer than 10% of all pediatric head and neck tumours<sup>1</sup>. Approximately 80% of salivary gland tumours are considered benign, pleomorphic adenoma being the most common type.<sup>2</sup> Mucoepidermoid carcinomas account for 50% of malignant salivary gland tumours in children.<sup>3,4</sup> Other malignant salivary gland tumours include adenoid cystic carcinoma, undifferentiated carcinoma, and acinic cell carcinoma, each of which occurs at a frequency of approximately 5% to 10%.<sup>5</sup> Because of the rarity of salivary gland malignancies in children and the array of different histopathologic types, it has been difficult to accumulate a broad experience and to establish a standard treatment strategy. Herein, we present our experience with mucoepidermoid carcinoma of the parotid gland.

**Case Presentation:** This is 4.5 year old girl who presented to us in first week of August 2015 with left parotid gland lump according to parents she had this swelling since last 7 months & it had grown in size gradually over a period of time. At the time of presentation examination revealed a 2x3 cm hard well circumscribed lesion in the centre of gland, fixed to underlying structure however overlying skin is mobile, there is palpable multiple lymph nodes at the level II on left side. CT scan Neck 18<sup>th</sup> June 2015: there is significant enlarged left parotid gland with relative low density area in its superior lobe, its size is 3.2x1.6x2.8 cm in size. No evidence of adjacent structure infiltration or underlying bony erosion noted. There are multiple enlarged lymph nodes identified adjacent to the left parotid gland.

FNAC of left parotid gland 9<sup>th</sup> July 2015: Mucoepidermoid lesion suspicious for Mucoepidermoid carcinoma. Complete excision is advised. She underwent on 5<sup>th</sup> August 2015. S/P: Total parotidectomy + partial sacrifice of facial nerve + selective neck dissection + nerve grafting to facial nerve + tarsorrhaphy to left eye. Her final histopathology report turned out as: Mucoepidermoid carcinoma low grade. Margins: tumour involving the both superficial & deep lobe margins tumour is present at the closest inked resection margin. Muscle invasion = Present LVI = Present & extensive, Perineural invasion = Present, Lymph nodes 0/56, pT2, pN0, Mx.

**Discussion:** Mucoepidermoid carcinoma of the parotid gland is very rare in children. Clinical stage and histologic grade are the main prognostic factors. Complete excision (superficial or total parotidectomy) with preservation of facial nerve is the treatment of choice. Neck dissection should be considered when there is clinical evidence of regional metastasis, high TNM stage, high histologic grade, and involvement of regional nodes. Radiotherapy should only be used in selected cases because of the possibility of long-term adverse effects in children and young patients. Long-term follow-up is essential to rule out late recurrence.

**78 P****METASTATIC GALLBLADDER CARCINOMA IN A 12 YEAR OLD CHILD - A CASE REPORT****AYESHA JAVED, M. JAWAID A. MALLICK, SHABBIR HUSSAIN, ABDUL HAFEEZ LAKHAN****DEPARTMENT OF ONCOLOGY, DEPARTMENT OF RADIOTHERAPY ZIAUDDIN UNIVERSITY HOSPITAL KARACHI**

**Abstract:** We report a case of 12 years old girl who had abdominal pain for the past 2 years. She visited local doctors who gave her symptomatic medications. An Ultrasound of abdomen was done which showed gallstones. She visited a tertiary care hospital and was seen by a surgeon who advised surgery. She underwent Cholecystectomy on 2<sup>nd</sup> September 2014. Histopathology came out to be well differentiated adenocarcinoma with close resection margins. She was not referred to any oncologist and remained on follow up. A CAT Scan of Chest, Abdomen and Pelvis was done on 13<sup>th</sup> January 2015 which reported as having bone and lung metastasis. She then went to a dedicated Pediatric Oncology Centre from where she was referred to our centre for Palliative Radiation Therapy for pain relief.

On reviewing previous literature it was found out that there are only three cases reported so far of primary gallbladder cancer in children. This case report is unique in its category as there is bone and lung metastasis which is never reported before.

79 P

## INDUCTION CHEMOTHERAPY FOLLOWED BY RADIATION THERAPY VERSUS SURGERY FOLLOWED BY CONCURRENT CHEMO-RADIATION THERAPY IN LOCALLY ADVANCED SQUAMOUS CELL CARCINOMA OF ORAL CAVITY

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**Objective:** Squamous cell carcinoma of the oral cavity is placed amongst the top ten malignancies globally. Pakistan has a high incidence of oral cancers due to the prevailing bad habits/addictions and most patients present with stage III or IV locally advanced disease. Recommended guidelines indicate surgery as the mainstay of treatment followed by radiation therapy (RT). The addition of induction chemotherapy before surgery or radiation therapy has improved outcomes with increased loco- regional control rates.

**Methods:** This is a retrospective cohort study comparing the outcomes in the standard arm of surgery followed by Concurrent chemo-radiation (CCRT) with the experimental arm of induction chemotherapy followed by Radiation Therapy (RT). The main objective was to evaluate progression free survival (PFS) and determine the toxicity of chemotherapy.

**Results:** We found out that the mean PFS among patients undergoing surgery and CCRT was 6.40 ( $\pm$  2.38) months while those who received Induction Chemotherapy followed by RT was 7.6 ( $\pm$ 4.76) months.

	<b>Arm 1</b> (Surgery followed by Concurrent Chemo- Radiation therapy (66 Gy), Chemotherapy with Cisplatin)	<b>Arm 2</b> Induction chemotherapy 2- 4 cycles with TPF protocol, followed by radiation therapy (66 Gy)	<b>p-value</b>
<b>Progression Free Survival time in months (mean <math>\pm</math> SD)</b>	6.40 $\pm$ 2.38	7.60 $\pm$ 4.76	0.136

**Discussion:** The association of induction chemotherapy with docetaxel, cisplatin and 5-fluoro-uracil and concomitant chemo-radiotherapy shows satisfying results with an acceptable toxicity. The results however are not statistically significant but still they open a new horizon for the treatment of head and neck cancers.

80 P

**PRIMARY ANGIOSARCOMA OF NECK NODES WITH BONY METASTASIS- A CASE REPORT****DR. SHABBIR HUSSAIN A. ALI, DR. M. JAWAID A. MALLICK, DR. ABDUL HAFEEZ LAKHAN, DR. AYESHA JAVED, DR. FURRUKH ASHRAF, DR. SAAD JAMAL, DR. YUSRA ASAD****DEPARTMENT OF RADIOTHERAPY, ZIAUDDIN UNIVERSITY HOSPITAL, KARACHI, PAKISTAN.**

**Introduction:** Angiosarcoma is an uncommon malignant neoplasm characterized by rapidly proliferating, extensively infiltrating anaplastic cells derived from blood vessels and lining irregular blood-filled spaces. Specialists apply the term angiosarcoma to a wide range of malignant endothelial vascular neoplasms that affect a variety of sites. Angiosarcomas are aggressive and tend to recur locally, spread widely, and have a high rate of lymph node and systemic metastases. The rate of tumour-related death is high. Approximately 50% of angiosarcomas occur in the head and neck, but they account for less than 0.1% of head and neck malignancies. Cutaneous angiosarcoma of the scalp and face is the most common form of angiosarcoma.

**Case Presentation:** A young 30 years old female presented with complaints of a large painless left neck swelling since 5 months. Initial workup with biopsies done at different centers concluded it as “spindle cell neoplasm”. Bone scan showed metastatic involvement of the right spine of scapula and the T12 vertebra. CT scan of neck showed a large soft tissue density mass in the left side of the neck extending from the subparotid region to the supraclavicular fossa abutting the left lung apex encasing the bifurcation of external carotid arteries. The mass is compressing the left tonsillar fossa and the base of tongue. It is also compressing the left thyroid gland and displacing the trachea towards right side. It measures 12.5 x 11.5 x 8.5 cm. Surgery was then done, histopathology showed “Poorly differentiated angiosarcoma” with 27/33 lymph nodes positive for metastasis. She was then offered postoperative radiotherapy but she refused and returned back to her native town.

**Discussion:** All angiosarcomas tend to be aggressive and are often multicentric. These tumours have a high local recurrence rate and metastasis because of their intrinsic biologic properties and because they are often misdiagnosed, leading to a poor prognosis and a high mortality rate. Malignant vascular tumours are clinically aggressive, difficult to treat, and have a reported 5-year survival rate around 20%. Angiosarcoma in the cervical lymph node without a primary scalp or oral cavity lesion is a very rare presentation and has been reported only once, making this case the first of its kind being reported with bony metastasis.

**81 P****FIELD-IN-FIELD TECHNIQUE WITH INTRAFRACTIONALLY MODULATED JUNCTION SHIFTS FOR CRANIOSPINAL IRRADIATION (CSI) PLANNING WITH 3D-CRT AT ZIAUDDIN HOSPITAL****SHABBIR HUSSAIN A. ALI, Hira Nazim, Rahim Gohar, M. Jawaid A. Mallick****DEPARTMENT OF RADIOTHERAPY, ZIAUDDIN UNIVERSITY HOSPITAL, KARACHI, PAKISTAN.  
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**Objective:** To plan craniospinal irradiation with “field-in-field” (FIF) homogenization technique in combination with daily, intra-fractional modulation of the field junctions, to minimize the possibility of spinal cord overdose. Photon-based techniques for craniospinal irradiation (CSI) may result in dose inhomogeneity within the treatment volume and usually require a weekly manual shift of the field junctions to minimize the possibility of spinal cord overdose. Nowadays field-in-field technique is used to feather out the dose inhomogeneity caused by multiple fields. We have started using this technique after acquiring advanced technology machines in recent years.

**Methods and Materials:** 16 patients (2 adults, 14 children) treated with 3D-CRT for craniospinal irradiation were retrospectively chosen for this analysis. These patients were planned and treated during 2016-2017. Contouring of Brain and Spine Cord and organ at risk were already done and planning done on Eclipse™ Treatment Planning System (Varian). All of these patients were planned Lateral cranio-cervical fields and posterior spinal fields were planned using a forward-planned, FIF technique. Field junctions were automatically modulated and custom-weighted for maximal homogeneity within each treatment fraction. Dose volume histogram (DVH) was used for analysis of results. A corresponding plan without FIF technique was planned and maximum dose at the junction was noted for each patient with both plans and the readings were evaluated.

**Results:** Plan inhomogeneity improved with FIF technique. Planning with daily modulated junction shifts provided consistent dose delivery during each fraction of treatment across the junctions. The maximum doses calculated at the junction were higher in the CSI plans without FIF compared to those with FIF technique.

**Conclusion:** This paper hence proves that FIF technique is better in planning craniospinal irradiation.

82 P

## FIELD-IN-FIELD TECHNIQUE WITH INTRAFRACTIONALLY MODULATED JUNCTION SHIFTS FOR CRANIOSPINAL IRRADIATION (CSI) PLANNING WITH 3D-CRT AT ZIAUDDIN HOSPITAL

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**Introduction:** Granular cell astrocytoma (GCA) is a very rare tumour, arising in the cerebral hemisphere and, rarely, in the cerebellum. Markesbery et al. first described it in 1973 as a granular cell tumour (GCT) in the central nervous system. The tumour was found to be a highly aggressive neoplasm, which is contrary to the benign nature of GCT in other parts of the body. Furthermore, the tumour was positive for glial fibrillary acidic protein (GFAP). It is now generally accepted that the origin is from the Schwann cell, based primarily on S-100 positivity. GCT has been seen in innumerable locations; the tumour cells are large and their cytoplasm is highly granular.

**Case Presentation:** We present a case of a 59 years old male with NKCM who visited the Radiation Oncology clinic on 5<sup>th</sup> Aug 2017. He had previous history of incoordination of movement of left foot since Jan 2017. He was admitted in a hospital and seen by a neurologist who advised a CAT Scan of Brain on May 2017 which reported as hypodense areas in the frontal lobe bilaterally and right parietooccipital lobe. Later an MRI of Brain was done the same month, which showed multiple focal lesions of abnormal signal with surrounding edema involving genu and rostrum of corpus callosum, the left insular cortex and claustrum on left side as well as deep white matter of the brain bilaterally and periventricular white matter. A PET Scan was also done which showed FDG uptake in right frontal lobe and corpus callosum. A biopsy was done by a neurosurgeon and histopathology was reported negative. A repeat MRI was done in June 2017, which showed progression of disease. The pathology slides were sent for 2<sup>nd</sup> opinion to an institute in USA which reported it to be Granular Cell Astrocytoma with CD68 +ve, CD163 +ve, OLIG2 +ve, SOX10 +ve and GFAP +ve. It reported it as an aggressive tumour like Glioblastoma multiformis. **Discussion:** Granular cell Astrocytoma (GCA) is confused with reactive conditions such as multiple sclerosis, progressive multifocal leukoencephalopathy, and infarction, because **the granular cells resemble macrophages**. The cytologic features of GCA were described in only one report in the literature. Arvanitis *et al.* asserts that the cytologic crush presentation was composed of small cells with indistinct cell borders and large cells with abundant eosinophilic granular cytoplasm. The most distinctive morphologic feature of GCA is its prominent component of granular cells. These tumour cells are large with distinct cell borders. They are round to oval in shape and characterized by abundant eosinophilic granular cytoplasm. The nuclei of these granular cells are bland, round to oval, varied in size, and often eccentrically located. Also, the presence of a conventional infiltrating astrocytoma component and tumour cells that are larger than macrophages is helpful to distinguish GCA from other conditions. The clinical course of GCA is known to be very aggressive. A study of 22 cases of GCA reported that the patients' survival duration was less than one year. According to Brat *et al.* the average survival of patients with grade 3 and 4 conventional astrocytoma was 3 years and 11 months, respectively. In contrast, the average survival of patients with grades 3 and 4 GCA was 8.4 and 7.3 months, respectively. Although this tumour could be of any grade, from World Health Organization (WHO) grade II to IV, the prognosis for this subtype is worse than that for conventional infiltrative astrocytomas. Treatment options comprise

surgery, radiotherapy, and chemotherapy. Due to the small number of cases, a standard therapeutic regimen for GCA does not exist.

## 83 P

### SIMULTANEOUS INTEGRATED BOOST (SIB)-IMRT TECHNIQUE IN HEAD AND NECK CANCER, REPORT OF THE FIRST PATIENT PLANNED AT ZIAUDDIN HOSPITAL

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**Introduction:** Simultaneous Integrated Boost (S.I.B.) Intensity Modulated Radiation Therapy (IMRT) is a promising new technique used nowadays for different dose levels and conformity. It also limits the dose in critical structures like spinal cord. In this paper we present the first case planned at Radiotherapy department, Ziauddin Hospital Karachi.

**Case Presentation:** The first case planned with SIB-IMRT at Radiotherapy department, Dr. Ziauddin Hospital, Karachi was a 10 years old boy referred by the Pediatric Oncology service for Radiation Therapy. This patient was a known case of Squamous cell carcinoma of left buccal mucosa and underwent surgery wide local excision and left neck dissection on 4<sup>th</sup> October 2016. He had  $pT_4pN_1M_x$  disease and Radiation Therapy was planned. Planning CT was done and DICOM images of 3 mm were transferred to Varian Eclipse™ Treatment Planning System. It was decided to plan this patient with IMRT SIB technique with different dose levels and limiting the dose to the spinal cord. Contouring was done with dose levels, Left side of the cheek was drawn to CTV\_66 Gy high risk area, right side of the cheek was contoured to CTV\_50Gy, low risk area, Left neck nodes were contoured with CTV(N)\_60Gy and right neck nodes with CTV(N)\_50Gy. Organ at risk were also contoured. Planning was done by physicist, keeping in mind the planned doses as contoured. SIB-IMRT plan was made and was forwarded to the treatment machine.

**Discussion:** Mohan et al. first proposed the concept of SIB-IMRT in the year 2000. SIB-IMRT gives the advantage of better target conformity with less dose spillage in critical organs. At the same time, it allows delivery of a higher dose of radiation to smaller sub-volumes in the target in a shorter period of time. Control rates in contemporary IMRT series using SIB-IMRT have been uniformly good. This is the first case who was planned with SIB-IMRT at Ziauddin Hospital, Karachi. The patient tolerated the treatment well but he developed a right neck node during radiation therapy so later on dose rate to the right side low risk are was increased and was hypo-fractionated. This also gives us the idea that head and neck cancer in our city is very aggressive and should be treated aggressively.

**84 P****PRIMARY SPINAL GLIOBLASTOMA - A CASE REPORT****DR. FURRUKH ASHRAF, DR. ABDUL HAFEEZ LAKHAN, DR. M. JAWAID A. MALLICK****DEPARTMENT OF RADIOTHERAPY, DR. ZIAUDDIN UNIVERSITY HOSPITAL, KARACHI, PAKISTAN.**

**Introduction:** Glioblastoma multiforme (GBM) is the most frequent primary brain tumour in adults. By contrast, primary spinal Glioblastoma accounts for only 1-5 % for all Glioblastoma and for only 1.5% of spinal cord tumours. Intramedullary GBM has a predilection to develop from the cervical region in primary cases, and has a tendency to develop at a young age (<30 years old). Despite the best treatment (surgery and adjuvant therapy), the estimated survival barely exceeds 6 to 16 months

**Case Presentation:** We report a case of a 14 years old girl with a six weeks history of urinary and fecal incontinence. Later on she developed progressive weakness in both lower limbs, which progressed to paraparesis. Magnetic resonance imaging (MRI) showed an Intramedullary expansile mass localized between C4 and T5 vertebra. A laminotomy was performed between T3 and T5 and the tumour was partially removed. Histopathological study was compatible with GBM. The patient was administered radiotherapy from C2 to T7 vertebrae (48 Gy in 25 Fractions) along with Temozolamide. During treatment power of her upper limbs mildly increased and of her lower limbs slightly increased.

**Discussion:** Intramedullary GBM is a rare disease entity. It develops primarily from the spinal cord or as a secondary metastasis from the brain, which covers up to 25% of the total occurrences. Seeding of an intracranial GBM along the spine occurs in 25% of cases. All current therapeutic measures have produced disappointing results and few data concerning their real value are available, with survival times between 6 and 16 months with a mean survival period of 12 months after diagnosis. We review the literature with regard to the disease and treatment options, and report the unique features of this case. Primary spinal GBM has poor prognosis and a short survival time. An aggressive management of the different complications as they arise and improvement of current modes of treatment and new treatment options are required to improve survival and ensure better quality of life.

85 P

## TRANSITIONAL CELL CARCINOMA OF URINARY BLADDER WITH BRAIN METASTASIS- A CASE REPORT

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**Introduction:** Brain metastatic tumours are very common intracranial neoplasm in adults. Lung cancer has the highest percentage that metastasize to brain about 45%-50% lung cancer cases, followed by 15%-25% of breast cancer and 5%-20% of melanoma cases metastasize to brain. Metastasis in brain from urinary bladder cancer is very rare, 0.3-1.8% cases of urinary bladder cancer accounts for brain metastasis.

**Case Presentation:** We report a case of 64 years old male admitted after transient loss of consciousness and vertigo in September 2016. He had a history of hematuria and fever in January 2016. An ultrasound abdomen was done on 25-01-2016 and reported as thick walled urinary bladder with a vesical mass measuring 2.4x1.2 cms. TURBT was done on 29-01-2016. Histopathology of the bladder biopsy showed high-grade transitional cell carcinoma. A repeat biopsy was done on 24-08-2016, histopathology showed transitional cell carcinoma with squamous differentiation, high grade II B with detrusor muscle involvement. After some time she developed weakness and insomnia with vertigo and fainted at home for which he was admitted through Emergency department on 11-10-2016. MRI Brain was done the same day which reported a well defined rounded enhancing lesion in left temporal lobe close to left sylvian fissure, measuring 1.8x1.8x1.7 cms with no vasogenic edema. Diffuse patchy and nodular meningeal enhancement was reported that was more prominent in infratemporal fossa. Mild enhancement was also seen within dura of bilateral optic nerves consistent with left temporal intra-axial metastatic deposits with dural metastasis. Later a lumbar puncture and CSF DR & Cytology was done and the report showed malignant cells.

**Discussion:** Urinary Bladder Carcinoma is commonly seen in older age and it is a common urinary tract malignant disease. The first case of Transitional cell carcinoma of urinary bladder metastasis to the brain was reported in a 48-year-old male patient without a history of tobacco use. The clinically detected distant metastases from transitional cell carcinoma of the bladder ranges from 9.5% to 29%. The most common metastatic sites of transitional cell carcinoma of bladder are lymph nodes, liver, lung, bone, and peritoneum. While skin, brain heart, and kidney are rarely involved organs. Dhote et al. noted that brain metastases normally occur late in the natural course of advanced urinary bladder cancer, and the inability of the MVAC chemotherapy regimen (methotrexate, vinblastine, adriamycin, cisplatin) to cross the BBB allows for systemic control of the disease, but leaves late metastatic foci in the inaccessible brain. This specific case presented with a diagnosis of urinary bladder carcinoma with specific focal signs of brain involvement and later investigations proved it as frank metastasis. We therefore report this rare case for academic purpose.

86 P

## MANAGEMENT AND IMPROVEMENTS IN THE CA BREAST AT PINUM HOSPITAL: A CASE STUDY

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**Introduction:** The number of Breast cancer cases in Pakistan is increasing with the passage of time as compared to other developing South Asian countries. Mostly, in women (55 – 65 years), CA Breast is considered to associate with old age health problems. The range of this group has some age complications, social problems and socioeconomic problems which offer different types of hindrances for standard treatments. A case study of 60 years old lady, who say goodbye to the CA Breast through her will power and the coordinated outdoor facilities provided in Punjab Institute of Nuclear Medicine (PINUM), Faisalabad.

**Methodology:** The history of the above reported case is that she is diabetic and is suffering from CA left Breast T<sub>3</sub>N<sub>3</sub> M<sub>0</sub> III C. ER and PR receptors were 60 – 70 % positive respectively while her 2-neu receptors was negative. Post-operative chemotherapy was advised and radiotherapy was done. Her health recovery is the good sign in the healing progress among the oncological patients. It is a small leap to solve problems of an old female through chemotherapy and new therapies.

**Case Presentation:** A 60 years old diabetic lady was diagnosed to be affected by advanced CA Breast during 2011. Multiple small well defined soft tissue lesions in left breast, enlarged with fibro edema, having invasive duct carcinoma with size 6.7cm, G. III, 15/26 lymph nodes positive extended at axillary arm pads. After screening, surgery was advised. Surgery was done and then adjuvant chemotherapy was advised, and after completing the planed said chemotherapy, she was referred to radiotherapy. After radiotherapy, metastasis results were negative. Now she is advised for hormonal therapy.

**Conclusion:** The prevalent women cancer, CA breast of the mentioned case could be eliminated through patient's positive attitude and the incentives provided by the government sectors in the form of facilities which leads to progress in the patient's health recovery. All these efforts would be possible through the latest management and guidelines provided by the concerning staff and doctors in association with family members.

**Keywords:** Cancer, breast, progressive, Diabetic, lymph nodes, latest management.

87 P

**PATTERNS OF BCR/ABL REARRANGEMENTS BY INTERPHASE FLUORESCENCE IN-SITU HYBRIDIZATION IN CML & ALL****ROMENA QAZI, BILAL AHMED DILWAR, RASHID ALI & MARYAM SALEEM****DEPARTMENT OF PATHOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL & RESEARCH CENTRE, JOHAR TOWN, LAHORE, PAKISTAN.**

**Introduction:** BCR/ABL fusion gene is formed when a region of chromosome 9, c-abl proto-oncogene (ABL) fuses with a region of chromosome 22, breakpoint cluster region (BCR). This is referred to as reciprocal translocation and is represented as t(9;22). The resulting chromosome 22 with BCR/ABL gene sequence is known as Philadelphia (Ph) chromosome. The BCR/ABL gene fusion leads to the formation of an abnormal molecule; tyrosine kinase with increased activity and presumed to be involved in the development of leukemia. Fluorescence in-situ hybridization (FISH) analysis using dual color BCR/ABL translocation probes allows the visualization of BCR/ABL rearrangements in both interphase and metaphase cell, and the presence of the BCR/ABL fusion gene on chromosomes 22.

BCR-ABL testing is used to diagnose Chronic Myelogenous Leukemia (CML) or acute lymphoblastic leukemia (ALL). It is used to determine eligibility for molecular targeted therapy such as imatinib & also monitor response to therapy and disease recurrence. The BCR/ABL fusion gene is present in 90-95% of CML patients at diagnosis. About 25% of adult & 2-4% of pediatric ALL are positive for BCR-ABL fusion. The presence of BCR/ABL gene in some ALL patients is associated with poor prognosis.

**Objective:** To determine the diagnostic and prognostic importance of various Fluorescence In-Situ Hybridization (FISH) signal patterns of dual color dual fusion BCR/ABL probe (D-FISH) in both CML and ALL. The incidence of both classical and variable/atypical signal patterns was observed. **Study Place and Period :** 734 samples included in this study were received in the Department of Pathology, Shaukat Khanum Memorial Cancer Hospital & Research Centre (Lahore, Pakistan) from July 2015 – July 2017 (i.e., 2 years) and processed for BCR-ABL FISH.

**Material/ Methods:** BCR-ABL FISH is performed on peripheral blood or bone marrow samples with commercially available BCR-ABL dual color dual fusion FISH probes.

**Results:** Approximately 428(58%) were diagnosed as CML and 221 cases (30%) were diagnosed as ALL. Eighty five samples were negative for BCR-ABL translocation. Approximately 239 cases (33%) of both CML and ALL patients displayed the classical DF-FISH (2F1G1O) signal pattern. Whereas 65(9%) of CML and ALL showed variable DF-FISH signal pattern. In variable DF-FISH different signal patterns were analysed. In these variable patterns 1F1G1O was 48(74%), 1F2G1O was 13(20%), 1F2G2O was 2(3.1%) & 1F1G2O was 4(6.2%) in both CML 50(77%) and ALL 15(23.1%). Other rare combinations of classical and variable/atypical signal patterns were also observed in both CML and ALL.

**Conclusions:** Our data reveal that a classical pattern was observed in CML and is also reported in ALL. The highest proportion of variable patterns observed were 1F1G1O followed by 1F2G1O. Patients with the loss of either 9q or 22q may possibly be associated with poor prognosis and shorter time to disease progression. Hence establishment of signal pattern with FISH is important as atypical patterns may have clinical diagnostic and prognostic implications

88 P

**CONTRIBUTION OF BRCA1 LARGE GENOMIC REARRANGEMENTS TO EARLY-ONSET AND FAMILIAL BREAST/OVARIAN CANCER IN PAKISTAN****NOOR MUHAMMAD<sup>1</sup>, ASIM AMIN<sup>2</sup>, ASIF LOYA<sup>1</sup>, UTE HAMANN<sup>3</sup>, MUHAMMAD USMAN RASHID<sup>1,3</sup>****<sup>1</sup> DEPARTMENT OF BASIC SCIENCES RESEARCH, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN; <sup>2</sup> LEVINE CANCER INSTITUTE (LCI), CAROLINAS HEALTHCARE SYSTEM, CHARLOTTE, USA.****<sup>3</sup> MOLECULAR GENETICS OF BREAST CANCER, GERMAN CANCER RESEARCH CENTER (DKFZ), HEIDELBERG, GERMANY**

**Objectives:** Germline mutations in *BRCA1* and *BRCA2* (*BRCA1/2*) account for the majority of hereditary breast and/or ovarian cancers. Pakistan has one of the highest rates of breast cancer incidence in Asia, where *BRCA1/2* small-range mutations account for 17% of early-onset and familial breast/ovarian cancer patients. The present study aimed to assess the prevalence of *BRCA1/2* large genomic rearrangements (LGRs) in breast and/or ovarian cancer patients from Pakistan that do not harbor small-range *BRCA1/2* mutations.

**Materials and methods:** Both *BRCA1/2* genes were comprehensively screened for LGRs using multiplex ligation-dependent probe amplification in 120 *BRCA1/2* small-range mutations negative early-onset or familial breast/ovarian cancer patients from Pakistan (Group 1). The breakpoints were characterized by long-range PCR and DNA sequencing analyses. An additional cohort of 445 *BRCA1/2* negative high-risk patients (Group 2) was analysed for the presence of LGRs identified in Group 1.

**Results:** Three different *BRCA1* LGRs were identified in Group 1 (4/120; 3.3%), two of these were novel. Exon 1-2 deletion was observed in two unrelated patients: an early-onset breast cancer (EOBC) patient and another bilateral breast cancer patient from a hereditary breast cancer (HBC) family. Novel exon 20-21 deletion was detected in a 29-year-old breast cancer patient from a HBC family. Another novel exon 21-24 deletion was identified in a breast-ovarian cancer patient from a hereditary breast and ovarian cancer (HBOC) family. The breakpoints of all deletions were characterized. Screening of the 445 patients in Group 2 for the three LGRs revealed ten additional patients harboring exon 1-2 deletion or exon 21-24 deletion (10/445; 2.2%). The frequency of *BRCA1* LGRs by family phenotype was 1.1% (2/182) for EOBC, 2.7% (5/183) for HBC, 6.2% (2/32) for HBOC, and 33.3% (1/3) for hereditary ovarian cancer families. Several other cancers were also reported among families harboring LGRs from Group 1 and Group 2. No *BRCA2* LGRs were identified.

**Conclusions:** LGRs in *BRCA1* are found with a considerable frequency in Pakistani breast/ovarian cancer cases. Our findings suggest that *BRCA1* exons 1-2 deletion and exons 21-24 deletion should be included in the recurrent *BRCA1/2* mutations panel for genetic testing of high-risk Pakistani breast/ovarian cancer patients.

**89 P****A 25 YEARS OLD WOMAN WITH A MYELOID NEOPLASM ASSOCIATED WITH EOSINOPHILIA AND T(5;12)(Q33;P13)/*PDGFRB* REARRANGEMENT: HAVING EXCELLENT RESPONSE TO IMATINIB THERAPY****FAREEHA SHEIKH, ABUDUL HAMEED, NEELAM SIDDIQUI****DEPART OF MEDICAL ONCOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE. PAKISTAN**

**Introduction:** The incidence of patients with *PDGFRB* rearrangement is low and accounts for approximately 1.8% of myeloproliferative neoplasms.

**Key Words:** PDGFRB, myeloid neoplasm, eosinophilic leukemia

**Case report:** We report a case of myeloid neoplasm with PDGFRB gene rearrangement that has received a full course of imatinib therapy. A previously healthy 25 years old male, smoker and alcoholic presented with 3 months history of progressive dyspnea. Examination showed bilateral pedal swelling, hepatosplenomegaly and ascites. His workup showed bicytopenia along with neutrophilic leukocytosis and 21% eosinophils. He was initially worked up on the lines of chronic myeloid leukemia. Bone marrow aspirate and biopsy were hypercellular, mainly composed of granular cells with an increased medullary eosinophilia (33%) and displayed dysplastic features. Finally bone marrow cytogenetics showed that all 20 GTG banded cells had a translocation between chromosomes 5 and 17 (5; 17 (q33;p13), (this fusion gene involves PDGFR/B). No normal 46, XY cells were observed. PCR for BCR ABL was negative. He had unusual chromosomal translocation involving PDGFR gene-which is very rare in chronic myeloid leukemia. Regarding treatment few case reports are available that imatinib can be effective in such patients. Based on above, it is difficult to predict survival (as compared to classic CML where long term survival is 80-90% with use of TKIs). He was initially started on Imatinib at 200mg then escalated to 400mg OD. He achieved hematological remission at 1 month and cytogenetic remission at 6 months. Meanwhile, he underwent cardiac evaluation due to signs of heart failure which showed a hypoechoic lesion in the Right ventricle which was suspected for myxoma. He was managed on lines of R sided heart failure. MRI scan showed no plain of separation between the mass and the right ventricle endomyocardial biopsy was advised could not be done due to affordability issues. His FU MRI in May/15 showed a regression in size of in endocardial mass along with resolution of symptoms of heart failure. He was started on tapering dose of Imatinib after completion of 2 years of therapy. His repeat bone marrow biopsy 6 months after holding Imatinib shows persistent complete cytological and morphological remission.

**Discussion:** The World Health Organization (WHO) classification of tumours of hematopoietic and lymphoid tissues, revised in 2008 (and updated in 2016), sub classifies primary eosinophilic disorders based on cytogenetic/molecular and histopathological findings. According to this classification eosinophilia associated with abnormalities of *PDGFRA*, *PDGFRB*, *FGFR1* or *PCMI-JAK2* is classified as a separate entity. All the available data is present in the form of case reports and case series which shows male predominance, eosinophilic predilection, diagnostic delays and good response to imatinib therapy in almost all patients with uncertainty in certain area like optimal dosage and duration of therapy.

**In conclusion**, we reported here the case of a patient diagnosed with a myeloproliferative neoplasm associated with eosinophilia and rearrangement of *PDGFRB* with a good response to imatinib therapy.

## 091 P

### SUPERSCAN OF MALIGNANCY: HOW SINISTER IS IT?

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**Purpose:** To study the factors associated with the development of superscan of malignancy on <sup>99m</sup>Tc diphosphonate bone scan in cancer patients and to assess patient's survival after its development.

**Methods:** Retrospective analysis of all bone scans performed between Jan-2006-Feb-2017 at the department of Nuclear Medicine in a single centre. Patient characteristics including demographics, type of malignancy, stage at presentation and survival were recorded.

**Results:** A total of 33573 patients underwent bone scan in the above mentioned time frame. Of these 124 patients (0.37%) developed super scan of malignancy. 107 were males and 18 females. The age range was 10 to 87 years. 85 had superscan at baseline. Based on primary diagnosis 99/2226 (4.4%) of all bone scans performed for prostate cancer, 17/7296 (0.23%) of breast cancer, 1/452 (0.4%) of nasopharyngeal, 2/237 of (0.8%) bladder and 2/54 of (3.1%) rectal cancer, 1/613 (0.16%) of osteosarcoma and 1/58 (1.5%) gastro-esophageal junction showed findings consistent with superscan of malignancy. A total of 25 patients died during follow up. Overall survival of patients with superscan was poor with 13% mortality in prostate cancer, 52.9% breast cancer and 100% with osteosarcoma and bladder ca.

In ca prostate, all patients with superscan were stage IV at presentation. PSA level range was 0.29-6772. In ca breast 6 patients had stage IIa, 5 were stage IIIa, 1 stage IIIc, 3 stage IV, in two the stage was not known.

**Conclusion:** The chance of developing superscan of malignancy was highest in patients with prostate cancer followed by rectal cancer in prostate cancer the PSA level did not correlate with development of superscan.

092 P

**ROLE OF HYPOFRACTIONATED RADIOTHERAPY IN LOCALLY ADVANCED HEAD AND NECK CANCERS.****ABDUL HAFEEZ LAKHAN, SHABBIR HUSSAIN, SHOAIB HANIF, SAAD JAMAL, AYESHA JAVED, YUSRA ASAD, JAWAID MALLICK****DEPARTMENT OF RADIATION ONCOLOGY ZIAUDDIN UNIVERSITY HOSPITAL KARACHI**

**Context:** Cancers of the Head and neck approximately constitute 10% of all cancers worldwide. In our centre at the Ziauddin University Hospital over 25% of all cancer patients have squamous cell carcinoma of head and neck region, while over 25-30 % of these patients are only palliatively treated and we use different hypofractionated schemes to palliate their symptoms.

**Purpose/Objectives:** To evaluate different Hypofractionated radiotherapy schemes in inoperable head and neck cancer patients in terms of disease related symptoms and acute toxicities.

**Setting and Design:** A Retrospective study. Cases of the last 1 year reviewed.

**Material/Methods:** A total of 60 patients included in this study with the diagnosis of locally advanced inoperable head and neck cancers, out of which 25 patients were treated with Quad Shot protocol. In this protocol each patient received 1400 cGy in 4 fractions over 2 days with 350 cGy twice a day. Each cycle was repeated after 14 days, minimum 2 and maximum 3 such cycles were given to patients depends upon disease response and treatment related toxicities. 25 patients received 3000 cGy in 10 fractions over 2 weeks' time, the patients who good response in terms of symptom relief and had bearable treatment related toxicities were further planned for the off cord boost of 1500. 10 patients received 3500 cGy in 10 fractions over 2 weeks.

**Results:** This review showed the significant response of all Hypofractionated Radiotherapy schemes in locally advanced head and neck cancer patients. However it was noted that Quad Shot regime was slightly better in comparison with the other two in terms of symptom control with less toxicity profile.

**Discussion:** This study shows the feasibility and benefits of different Hypofractionated palliative radiotherapy schemes for inoperable locally advanced head and neck cancer in terms of patient compliance, reduced side-effect, and effective palliation. There was significant improvement in symptoms of pain in and distress. Our results are comparable to some prior studies also.

**Key Words:** Hypofractionated. Radiotherapy, Head and Neck cancer , Quad Shot

093 P

**INFLUENCE OF VITAMIN D LEVEL ON BREAST CANCER OUTCOMES IN SOUTH EAST ASIAN POPULATION****MARIAM BAIG, SONIA ZAFAR, TOQEER ZAHID, SADAF BATOOL, AMINA I. KHAN, M. ZULQURNAIN CHAUDHARY, MUHAMMAD ASAD PERVAIZ****DEPARTMENT OF BREAST SURGERY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

**Objective:** Vitamin D has been proposed to play a significant role in recurrence and survival of patients with breast cancer. The literature however shows conflicting evidence of vitamin D association with breast cancer outcomes. We aim to look at association of vitamin D level with breast cancer outcomes in our population.

**Material and Methods:** From July 2011 to February 2012, 97 patients diagnosed with breast cancer were included in the study from a prospectively maintained electronic database. Vitamin D level was measured at the beginning of treatment. Patients were evaluated for tumour size, histopathological type and grade, lymph nodal disease, and receptor status. Oncological outcomes following treatment were assessed and their association with vitamin D was evaluated.

**Results:** In 97 patients from the study period, mean age was 49 years and risk factors were seen only in 17 patients. Mean tumours size at presentation was 31mm. 59 patients received neo-adjuvant chemotherapy while only 8 patients were given neo-adjuvant hormonal therapy. Breast conserving surgery (BCS) was performed in most of the patients 55.2 % (n=69) and 45.6% (n=57) patients underwent Axillary Lymph node dissection. Commonly seen histopathological type of tumour was Invasive Ductal Carcinoma (IDCa) 56% (n=70). 58.4% (n=78) patients received hormonal therapy whereas 67.2% patients (n=84) received post operative radiotherapy. Vitamin D deficiency was recorded in 73.4% patients (n=69). Breast cancer recurrence was found in 24% patients (n=30) whereas 13.6% (n=17) patients died of breast cancer. Vitamin D level has no statistically significant impact on breast cancer recurrence with p value of 0.172

**Conclusion:** Although the association of Vitamin D with breast cancer outcomes has been unclear, we can safely conclude that Vitamin D level does not predict the breast cancer outcomes and has no influence on breast cancer recurrence.

094 P

## OUTCOMES OF POSTERIOR PELVIC EXENTERATION AT A SPECIALIST ONCOLOGICAL CENTRE

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**Introduction:** Posterior pelvic exenteration provides an option for optimal local control for patients with locally advanced or recurrent gynecologic or rectal malignancies. The morbidity and mortality of this radical operation has improved with evolution of surgical techniques and perioperative care. We report our experience of posterior pelvic exenteration at a specialist cancer hospital.

**Methods:** All patients undergoing posterior pelvic exenteration between 2002 and 2017 were studied. Clinical details, operative, postoperative and follow-up data were recorded from electronic case records and analysed using IBM SPSS Ver 20.

**Results:** Over the 15 year period of study, we identified 38 female patients who underwent posterior pelvic exenteration. The median age was 50 years (IQR 38 – 53 years). Primary tumour was Ovarian in 30 patients, rectal in 5 patients and uterine in 3 patients. Exenteration was performed for recurrent disease in 25 patients. Median operative time was 270 minutes (IQR 210 – 300 minutes). Five patients developed postoperative complications (Anastomotic leak, Pulmonary Embolism, Ureteric injury in two patient , Resp failiure in one patient). Median hospital stay was 7 days(IQR 5-8). Over a median follow-up duration of 21 months (IQR 9.8 – 33 months), 21 patients were disease free, 6 were alive with recurrence, and 5 had died of recurrent disease while 2 patients died from other causes.

**Conclusions:** Posterior pelvic exenteration can help in achieving local control in locally advanced or recurrent rectal or gynecologic cancers. A multidisciplinary team approach to management of these aggressive tumours is required for optimal disease control.

095 P

**VOLUMETRIC MODULATED ARC THERAPY TREATMENT PLANNING FOR CERVICAL CANCER PATIENTS: A DOSIMETRIC ANALYSIS.****AYESHA SARWAR<sup>1,2</sup>, SAEED AHMAD BUZDAR<sup>2</sup>, KHALID IQBAL<sup>1</sup>****DEPARTMENT OF RADIATION ONCOLOGY, SHAUKAT KHANUM CANCER HOSPITAL & RESEARCH CENTER, LAHORE, PAKISTAN<sup>1</sup>, DEPARTMENT OF PHYSICS, THE ISLAMIA UNIVERSITY, BAHAWALPUR, PAKISTAN<sup>2</sup>.**

**Introduction:** The need of exact and accurate treatment planning and delivery is necessary for cancer patients in radiotherapy. Recently, a new treatment technique, RapidArc, in which dose is delivered over a single gantry rotation with dynamically variable MLC positions, dose rate and gantry speed is consider more accurate treatment delivery as compared to conventional radiotherapy techniques.

**Material and methods:** We here describes our experiences of dosimetric analysis using Eclipse RapidArc optimization software for cervical cancer.18 patients were planned using Eclipse RapidArc treatment planning on DHX using 15MV .RapidArc plans were planned and treated with the RapidArc technique using standard guidelines. All patients planning were analysed using different dosimetric parameters.

**Results:** The results indicate that mean value of homogeneity was 0.153 with standard deviation 0.019 .The Conformity index mean value was 0.959 having standard deviation 0.027. Uniformity index mean value was 1.107 and standard deviation of uniformity was 0.013. Moderate dose homogeneity index mean value was 0.902 and with standard deviation 0.010. Radical dose homogeneity index mean value was 0.680 and standard deviation was 0.060 .Coverage Index means value was 0.764 having standard deviation was 0.070 and homogeneity mean value was 1.124 With standard deviation was 0.035

**Conclusion:** The results obtained shows that RapidArc optimization is very promising, especially regarding the dose homogeneity and conformity with compared to conventional treatment planning. Often more minimum time is required to deliver the treatment but still some improvement is prerequisite with respect to achieving high target dose homogeneity.

**Key Words:** RapidArc, uniformity, homogeneity, Coverage Index, optimization Planning

096 P

**TREATMENT ABANDONMENT IN PATIENTS WITH OSTEOSARCOMA: EXPERIENCE FROM A DEVELOPING COUNTRY**

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**Purpose/Objective:** Treatment abandonment is a common cause of cancer related mortality in developing countries especially in conditions that require mutilating surgery. We conducted this study to determine the patterns of treatment abandonment in patients of Osteosarcoma treated at our institution over 10 years.

**Materials and Methods:** We conducted a retrospective chart review of patients diagnosed with Osteosarcoma at our institution between January 2005 and December 2014. We compared characteristic of patients that continued treatment and that abandoned. SPSS version 19 was used for analysis.

**Result:** Osteosarcoma was diagnosed in 225 patients out of which 77 patients (34.2%) abandoned treatment. Thus, about 8 patients a year did not complete treatment. About half of these (38 patients) abandoned prior to start of chemotherapy while the remaining 39 left following neo-adjuvant chemotherapy. The mean age of treated group was 13.6 (SD+/-3.2) and abandonment group was 14.4(SD+/-2.6). Of the total 134 male patients 40 (30%) abandoned while 37 of 90 females (41%) abandoned. The likelihood ratio for abandonment for females was 3 (p= 0.056). None of the patients from Afghanistan abandoned, while 25% from Sindh and Baluchistan, 32.7% from KPK and 37.4 from Punjab abandoned treatment. 34% of patients with non-metastatic and 37% with metastatic disease abandoned. Follow-up information was only available for 8 (10%) patients. 3 patients died of disease progression and 5 patients came back with progressive disease and were lost to follow-up again.

**Conclusions:** There is high rate of treatment abandonment in Osteosarcoma patients at our institution. Half of the cases occur at time of surgery so better counseling and preparation of patients for amputation may reduce abandonment rates. Females also show a higher trend for abandonment. Disease prognosis and geographic distance from institution don't effect abandonment. There is need for better follow-up of patients who abandoned to know their outcomes.

097 P

## CLINICAL PROFILE AND SHORT-TERM OUTCOME OF PEDIATRIC HYPERLEUKOCYTIC ACUTE LEUKEMIA FROM A DEVELOPING COUNTRY

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**Objective:** This study was conducted to determine the frequency, clinical profile, and short-term outcome of children with hyperleukocytosis at two pediatric oncology centers in Karachi.

**Material & Methods:** We conducted a retrospective chart review of patients diagnosed with hyperleukocytic acute leukemia during last 5 years. We recorded characteristic of leukemic patients with hyperleukocytosis on a proforma. SPSS version 19 was used for analysis.

**Results:** Of a total 1,045 patients, 13.97% (n=146) patients had hyperleukocytosis. Majority (61.7%, n=90) were under 10 years of age and 76% (n=146) were male. The symptom duration before diagnosis was more than 30 days in 49.3% (n=72). The median WBC count was 181 x10<sup>9</sup>/L (IQR=130.45- 298.3) and extreme hyperleukocytosis (>200 x10<sup>9</sup>/L) was observed in 44.5% (n=65) patients. Majority (94.5%, n=138) of patients were diagnosed with acute lymphoblastic leukemia. One or more complications developed in 78% (n=114) of cases. Clinical and laboratory tumour lysis syndrome (TLS) was observed in 17.1% (n=25) and 39% (n=57) patients, respectively. Pulmonary and neurological complications related to leukostasis were noted in 9.5% (n=14) and 27.3% (n=40) of cases, respectively. Infectious complications occurred in 23.2% (n=34) patients. The case-specific mortality was 20.5% (n=30). No mortality was related to early complications of hyperleukocytosis.

**Conclusion:** Acute hyperleukocytic leukemia in children is not uncommon and can be managed with appropriate supportive care and monitoring. Most of the deaths were related to sepsis during induction-remission phase of chemotherapy instead of early complications of hyperleukocytosis.

## 098 P

## EFFICACY OF PALLIATIVE INTENT HEMOSTATIC RADIATION THERAPY IN ADVANCED MALIGNANCIES: A TERTIARY CARE EXPERIENCE FROM SAUDI ARABIA

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**Background:** This study was undertaken to explore the outcomes after hemostatic radiation therapy (HRT) in advanced stage malignancies presenting with bleeding. The control of bleeding is of paramount importance in the management cancer patients. This study will help us elaborate the significance of hemostatic radiotherapy and the optimal dose required to secure hemostasis in bleeding cancer patients .

**Methods:** Patients treated by HRT between 2014 and 2015 were analysed retrospectively after obtaining approval from the Institutional Review Board. The degree of bleeding was assessed per the World Health Organization (WHO) scale (grade 0 = no bleeding, 1 = petechial bleeding, 2 = clinically significant bleeding, 3 = bleeding requiring transfusion, 4 = bleeding associated with fatality). Our primary endpoint was bleeding at the end of radiation therapy, while the secondary endpoint was acute toxicity. Comparison was made for the bleeding scale before and after HRT using the Wilcoxon signed rank test .**Results:** A total of 28 patients with advanced malignancies and presenting with bleeding were analysed. Median age was 59 years (range, 30 – 92 years). Before treatment with HRT, bleeding was recorded as grade 2 in 15 (53%) and grade 3 in 13 (47%) patients. A median dose of 20 Gy (range, 8–30 Gy) of HRT was used to stop the bleeding. At the end of HRT, the results were promising with a statistically significant difference in bleeding ( $p < 0.001$ ). Post HRT bleeding score was recorded as grade 0 in 68% (n = 19), grade 1 in 21% (n = 6), grade 2 in 7% (n = 2), grade 3 in 4% (n = 1) and grade 4 in none (n = 0). The median follow-up in our study was 1 month (range, 1 – 5 months), since most of the patients are discharged after palliative radiation therapy. On follow up 7 patients (25%) died with 3 related to bleeding. Toxicity profile was reasonable with no grade 3 or above acute toxicity being observed in the study .

**Conclusions:** HRT appears to be a safe and effective treatment modality for securing hemostasis in clinically bleeding patients.

**Keywords:** Cancer, Bleeding, Hemostatic, Palliative, Radiotherapy

Age	30 – 92 years (median 59)				
Gender	68% females (n=19), 32% males (n=9)				
<b>WHO Bleeding score</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Pre-HRT	0	0	53%	47%	0
Post-HRT	68%	21%	7%	4%	0

099 P

## EVIDENCE BASED PRACTICE INTO CRITICAL CARE NURSING ACTION

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**Introduction and Aim:** Every patient deserves to be provided with high quality and cost effective care based on scientific knowledge and evidence based practices (EBP). EBP has enhanced patient outcomes in US health care system by at least 28%, and can diminish health care expenditure by 30% if patients receive evidence-based care. EBP is a process by which evidence is used in constructing top decisions concerning the patients care. In this day and age, in clinical settings nurses are challenged by patients and health care organizations to provide best evidence based care; numerous barriers exist that create a gap between new knowledge and implementation of clinical knowledge to improve patient care. Critical care nurses play a fundamental role in providing evidence based care to the patient.

**Methods:** The following structures are implaced at the unit level such as nursing journal club, ideas for improvement and unit based council. Empowered and shared decision-making structures in nursing practice are identified as a best structure for a healthy work environment (Charland, 2015). Outside the unit through shared governance structure; nurses participate at the divisional council and nursing affairs practice council level.

**Results:** Shared governance has been described as a nursing governance structure that advances nurses' control over practice, while extending staff input and influence on decision making (Hess, 2004). Following topics were presented in journal club:

- a. Blood conservation device system (VAMP)
- b. Catheter urinary tract infection
- c. Open visitation versus restriction of visiting policies
- d. Perception of code team members
- e. Unplanned extubation
- f. Improving RN-RN interaction

Based on different approaches, the unique ideas for improvement were produced from critical care nursing division.

**Conclusion and Recommendation:** It is recommended that many studies can be done in the practical setting such as whether mouth care should be done prior or after the suctioning skills. Case studies and reflection can be used as a strategy for the integration of EBP in to every day nursing practice. Moreover, barriers can be overcome through organizational by integrating research in practice and using strategies such as journal club and grand rounds.

**0100 P****CRITICAL CARE NURSES DEMONSTRATING EXEMPLARY PRACTICE AND PATIENT SAFETY ADVOCACY****SHIRIN BADRUDDIN****KING FAISAL SPECIALIST HOSPITAL AND RESEARCH CENTER RIYADH, SAUDI ARABIA**

Florence Nightingale (1860) said, “The very first requirement in the hospitals is that it should do the sick no harm”. It shows patient advocacy is our moral and ethical obligation as a critical care nurse. American association of critical nurses theme for this year is “It matters”. Nurses have a long history of saving lives and doing what matters for our patients and families (Wiencek, 2016-2017, AACN President). Nursing profession is making a wide reaching impact by providing quality, patient-centered, accessible and affordable care (Institute of Medicine Report, 2015). In United States in a survey, public repeated identifies nurses as the profession most trusted to act honest and ethical behavior. Patient relies on nurses to provide safe care and sets a path towards excellence. Similarly, by preventing patients from harm and provide trust relation as a nurse, we can make nursing as the most honest profession in Saudi Arabia.

Being an advocate is crucial to patient safety and satisfaction in critical care nursing. Advocating for a patient demands a number of skills such as confidence and being assertive. Literature has highlighted several various strategies to develop and enhance critical care nursing advocacy to prevent patients from harms and error.

Based on exemplary practice and patient advocacy, nursing sensitive indicators such as central line associated blood stream infection, catheter-associated urinary tract infection, ventilator associated pneumonia were meeting NDNQI Magnet benchmark of below 50<sup>th</sup> percentile.

Since we become exemplary, our achievement as critical care nurses are developing communication tool kit, submission of AACN Beacon award for excellence, nursing sensitive indicators and RN-RN interaction improved, which in turn leads to improve patient outcomes.

Evidence based strategies to develop the attribute for patient advocacy will be shared on the basis of literature in relation to the American association of critical care nurses’ essential standards for establishing and sustaining health work environment. The role of exemplary critical care nurse and the implication of nursing advocacy in improving clinical outcomes will be presented. In addition, integration of shared governance structure in improving nursing quality indicators and patient outcomes will be presented.

101 P

## PEG CAPPED METHOTREXATE SILVER NANOPARTICLES FOR EFFICIENT ANTICANCER ACTIVITY AND BIOCOMPATIBILITY

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**Background:** Chemotherapeutics, the first line treatment, being used worldwide each day by millions of people to combat cancer. Nanocarriers endow tremendous benefits to the drug delivery systems depending upon the specific properties of either component. These benefits include, increase in the drug blood retention time, reduced efflux, additional toxicity and targeted delivery. Methotrexate (MTX) is clinically used for cancer treatment. Higher dosage of MTX results in hepatic and renal toxicity. In this study methotrexate silver nanoparticles (Ag-MTX) coated with polyethylene glycol (PEG) are synthesized and characterized. Their anticancer activity and biocompatibility is also evaluated.

**Results:** Ag-MTX nanoparticles are synthesized by chemical reduction method. The synthesis, conjugation, size and shape of AgMTX was determined through Fourier Transform Infrared Spectroscopy, Ultraviolet-Visible Spectroscopy and Transmission Electron Microscopy. Stability of nanoparticles against temperature and salt concentration was checked and particles were found to be stable. These particles exhibited improved anticancer activity against MCF-7 cell line. PEG-AgMTX showed significant haemolytic behavior in comparison to AgMTX and MTX.

**Conclusion:** PEG-Ag-MTX Nanoconjugates showed more hemocompatibility (caused less than 5 % Hemolysis) and enhanced biological activity as compared to parent drug and also the amount of drug required for its activity was reduced to less than 50%. In-vivo investigations should be carried out to explore them in detail.

102 P

## CHEMOTHERAPY INDUCED AMENORRHEA AND ITS PERCEIVED PSYCHOSOCIAL EFFECTS IN PATIENTS WITH BREAST CANCER

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**Background:** Breast cancer is the most common cancer affecting women, and the leading cause of cancer death. Over 200,000 women between the ages of 20–49 are diagnosed with cancer every year after definitive local treatment; adjuvant chemotherapy is given in order to prevent recurrence. The chemotherapeutic agents have been known to cause premature amenorrhea often; irreversible. Chemotherapy induced amenorrhea is one of the major adverse outcome which ultimately leads to psychological disturbance among patients with breast cancer. This study was conducted to know the frequency and perceived psychosocial effects of chemotherapy induced amenorrhea in women with breast cancer.

**Method:** 139 patients with the histologically proven breast cancer who had qualified for receiving chemotherapy during the study period were enrolled on the satisfaction of inclusion and exclusion criteria. Patients demographic details and the breast cancer treatment related information and information regarding the menstrual history were collected through a pre formed questionnaire and the perceived psychosocial impacts / quality of life of the participant were assessed at six months after first contact by using Functional Assessment of Cancer Therapy-Breast (FACT-B) version-4 translated in Urdu language.

### Results:

**Socio-demographic characteristics of the patients:** A total of 139 patients were included in the study. Mean age of the patients was 41.18 year  $\pm$  4.3. Almost 93.5 (130) patients were married having average of 3 children. Ninety-one percent of the married patients had 5 or less children, a major proportion of women belonged to urban areas which constitute 82.7 % of the total.

Majority (85.6 %) of the patients were educated. More than 50 % had education level of higher secondary and above. **Menstrual status of the patients:** About eighty five percent (84.9%) of the patients developed amenorrhea after chemotherapy within six months of the start of chemotherapy. **Cycles of chemotherapy:** About 94.2 % of the patients had received three or more than three cycles of chemotherapy with an average duration of chemotherapy of 4.87 months. **Biological markers of the patients:** Majority of patients (92.8%) were either stage II or III of breast cancer at the diagnosis. About 78.4 % were positive for the estrogen and progesterone receptors and 79.1 % were negative for her 2 neu receptor. **Perceived psychosocial effects:** With regards to the psychosocial effect of chemotherapy induced amenorrhea 87 % of the patients had a moderate quality of life, 10 % of the patients had high while 2.2 % of the patients had a low quality of life.

**Conclusion:** It is concluded in our study the about 85 percent of the patient have had chemotherapy induced amenorrhea, while about 78 percent of the patient had a moderate quality of life.

## 103 P

**STUDY OF DOSE CONSTRAINTS TO CRITICAL ORGANS FOR HEAD AND NECK TUMOURS TREATED WITH SIMULTANEOUS INTEGRATED BOOST INTENSITY MODULATED RADIOTHERAPY.****MARIA ATIQ<sup>1</sup>, ATIA ATIQ<sup>1</sup>, KHALID IQBAL<sup>2</sup>, SAEED AHMAD BUZDAR<sup>1</sup>****<sup>1</sup>DEPARTMENT OF PHYSICS, THE ISLAMIA UNIVERSITY OF BAHAWALPUR. PAKISTAN****<sup>2</sup> SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL & RESEARCH CENTRE. LAHORE. PAKISTAN**

**Purpose:** The aim of present work was to assess tissue tolerance and to analyse dosimetric indices for achieving homogeneous and conformal dose distribution encircling volume of interest.

**Method:**

This study analysed 15 cancer patients receiving treatment using inverse planned Simultaneous Integrated Boost Intensity Modulated Radiation Therapy (SIB IMRT) technique. Tumoricidal dose of 6 MV were delivered including two dose levels of 70 Gy and 55.4 Gy. Doses of 2 Gy in 35 fractions and 1.68 Gy in 33 fractions were delivered for Effective Target Volume PTV1 and Boost Target Volume PTV2 respectively. Quality of Planning Target Volume (PTV) using dosimetric indices and doses to normal tissues as per RTOG and DAHANCA guidelines were explored for this modality.

**Results:** Dose distribution in PTV and OAR lies within tested range protecting spinal cord, brainstem, optic chiasm, optic nerve thus reducing the risk of damage to normal tissues. Minor deviation from tolerance limit was observed for parotid glands. However coverage of target is of prime concern instead of lowering mean dose to parotid. This technique provide highly conformal and homogenous dose distribution as well as better sparing of OARs, hence verifying quality assurance results to be satisfactory.

**Conclusion:**

With the use of SIB IMRT technique risk of damage to normal tissues is reduced. SIB offer best solution for preserving organ function by keeping dose below tolerance level. Treatment of head and neck carcinoma using SIB IMRT is feasible, more efficient, and dose escalation is achieved in a single plan.

104 P

## COMPARISON OF VARIOUS HOMOGENEITY INDICES FOR TREATMENT OF PELVIC PATIENTS USING INTENSITY MODULATED RADIATION THERAPY TECHNIQUE

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**Purpose:** Dose Homogeneity of treatment plans in target volume are quantified by an objective tool known as Homogeneity Index (HI). This study was performed to evaluate degree of homogeneity of 18 patients treated with radiotherapy treatment plan using Cumulative Dose Volume Histogram.

**Material and Method:** Effectiveness of different homogeneity indices (A, B, C) were explored for Intensity Modulated Radiation Therapy (IMRT) plans using 15 MV photon beams. Different formulas are described in literature to compute how well dose is uniformly distributed in the target volume. Eighteen patients were selected at random for treatment of pelvic cancer and dose of 5000 cGy was delivered in 25 equal fractions.

**Result:** The study was undertaken to compare three HI formulas and statistically significant difference between each set of homogeneity index was known by calculating p value using student t-test. Correlation between HIs and target volume were also explored. By using three different formulas mean values of HI for Formula A, Formula B and Formula C were  $1.12 \pm 0.02$ ,  $0.13 \pm 0.02$  and  $0.10 \pm 0.02$  respectively.

**Conclusion:** HI values came within limits as suggested by Radiation Therapy Oncology Group (RTOG), 1993 guidelines. Our data suggested that HI calculated using three formulas provided plan quality equally. This study clearly demonstrated that favorable dose distribution in Planning Target Volume (PTV) and Organs at Risk (OARs) is achieved using IMRT technique and hence the risk of damage to normal tissues is reduced. Results would be further verified by including more number of patients in the study. It is recommended that determination of this parameter be taken into account in clinical practice when investigating a new technique.

105 P

## INTERPRETATION OF GAMMA INDEX FOR QUALITY ASSURANCE OF SIMULTANEOUSLY INTEGRATED BOOST (SIB) IMRT PLANS FOR HEAD AND NECK CARCINOMA

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**Purpose:** To ensure the accuracy of applied plans and its potential to detect drawbacks in intended planar dose distribution, gamma evaluation technique is prerequisite. This study aims to inquire what percentage of pixels passing a certain criteria assure a good quality plan and suggest gamma index as efficient mechanism for dose verification of Simultaneous Integrated Boost Intensity Modulated Radiotherapy (SIB IMRT) plans.

**Method:** In this study, dose was calculated for 14 Head and Neck (H & N) patients and IMRT Quality Assurance was performed with portal dosimetry using the Eclipse treatment planning system. Eclipse software has a Gamma analysis function to compare measured and calculated dose distribution. Plans of this study were deemed acceptable when passing rate was 95% using tolerance for Distance to agreement (DTA) as 3mm and Dose Difference (DD) as 5%.

**Result:** Thirteen cases pass tolerance criteria of 95% set by our institution. Confidence Limit for DD is 9.3% and for gamma criteria our local CL came out to be 2.0% (i.e., 98.0% passing). Lack of correlation was found between DD and  $\gamma$  passing rate with  $R^2$  of 0.0509.

**Conclusion:** Our findings underline the importance of gamma analysis method to predict the quality of dose calculation. Passing rate of 95% is achieved in 93% of cases which is adequate level of accuracy for analysed plans thus assuring the robustness of SIB IMRT treatment technique. This study can be extended to investigate gamma criteria of 5%/3mm for different tumour localities and to explore confidence limit on target volumes of small extent and simple geometry.

## 106 P

**EFFICACY OF POSTOPERATIVE PAIN CONTROL AFTER MAJOR OPEN ABDOMINAL CANCER SURGERIES: A COMPARISON OF TWO DRUG REGIMES OF BUPIVACAINE 0.125% VS BUPIVACAINE 0.125% + FENTANYL 2 MICS/ML****ALI SS, A.D. ASHFAQ, KHAN W A****DEPARTMENT OF ANESTHESIA AND PAIN MEDICINE, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE. PAKISTAN**

**Background:** The worldwide incidence of postoperative pain varies from 14% to 70% depending on the intensity, type of surgery, anesthesia and institutional protocol for pain management. Management of acute post-operative pain has received keen attention in recent years with considerable advancement in the field. Major abdominal surgeries induce neurohumoral changes responsible for postoperative pain, various organ dysfunctions and prolonged hospitalization. Epidural analgesia aims at decreasing postoperative pain. It is considered a safe and effective method for pain relief. This study aimed at comparing the effect of two concentrations of bupivacaine 0.125% and 0.125% + fentanyl on pain relief.

**Methods:** We analysed Sixty nine patients (ASA II & III) of either sex aged from 20 to 60 years that underwent elective major abdominal surgery who received thoracolumbar epidural infusions of either bupivacaine 0.125% or bupivacaine 0.125% with fentanyl 2 micrograms/ml during 24 hr postoperatively were noted from 1<sup>st</sup> July 2017 to 28<sup>th</sup> July 2017. Postoperative analgesia was measured using a visual analogue pain scale. Data was collected from Hospital information system retrospectively.

**Results:** Total sixty nine patients, 46.3% received Epidural infusion of 0.125% Bupivacaine and 53.6% received 0.125% bupivacaine + 2 mics Fentanyl. In patients receiving plain bupivacaine 56.2% had mild, 28.1% had moderate and 15.6% had severe pain. In patients receiving Bupivacaine with fentanyl 57.8% had mild, 31.5% had moderate and 10.5% had severe pain. we

**Conclusion:** We concluded that bupivacaine alone and bupivacaine with fentanyl are comparable in terms of efficacy. However severe pain intensity was higher in plain bupivacaine group. This needs to be assessed further at a larger scale.

107 P

## EVALUATION OF PERIOPERATIVE DRUG MANAGEMENT (PREPARATION AND HANDLING) BY ANESTHETISTS: A COMPARATIVE STUDY OF MORNING AND EVENING SESSIONS

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**Background:** Drug management (preparation and handling) is one of the important responsibilities of an anaesthetist. However, fatigue and exhaustion during a duty might affect efficiency of the preparer leading to mistakes e.g. wrong drug ,wrong dosage/dilution. The aim of this study was to observe and evaluate drug management by anaesthetists during morning and evening sessions.

**Methods:** 15 Anaesthetists on duty for perioperative management of surgical procedures were observed during morning (M) and evening (E) sessions over a period of 30 days in July 2017. Drug management was observed based on performa and a questionnaire consisting of the following categories: drug storage (temperature of the storage, availability of anaesthesia and emergency drugs), drug preparation (using gloves, checking the expiry date, verification of high alert medication (name, dosage, time of preparation) and administration of antibiotics prior to surgery.

**Results:** There was no significant difference between both sessions (M + E): drug storage , temperature in desired range (M:100%, E:100%), availability of anaesthetic and emergency medication (M:98%, E:100%), anaesthetists wearing gloves (M:90%, E:82%), the number of prepared emergency drugs (M:94%, E:92%), verification of high alert medication (M:100%, E:94%), and compliance in antibiotics administration prior to surgery (M:100%, E:100%). However, there was a difference between two sessions with regard to labelling with concentration (M 80%, E46%),expiry date verification for routine drugs(M:84%, E:62%) , double check for high alert medication (M100%, E 94%)and indication of drug preparation time (M:76%, E:46%).

**Conclusion:** This study shows that drugs are prepared more accurately during morning sessions as compared to evening sessions, specifically regarding drug labelling and expiry date verification.

108 P

**MORTALITY AND UTILIZATION OF CRITICAL CARE RESOURCES AMONGST HIGH-RISK SURGICAL PATIENTS AT SKMCH&RC****S REHMAN, Z.WAHEED, AW.KHAN****DEPARTMENT OF ANESTHESIA AND PAIN MEDICINE, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

**Background:** In SKMCH&RC, we deal mostly with cancer surgeries. This survey was done to describe a population of non-cardiac surgical patients at a high risk of complications and death. Outcomes are sub-optimal for such patients, perhaps in part related to inadequate provision or ineffective utilization of critical care resources. In this study, data describing 3500 in-patients non-cardiac surgical procedures performed at SKMCH&RC between January 2009 and December 2014 were extracted from local HIS.

**Purpose:** To describe a population of non-cardiac surgical patients at high risk of complications and death, and to sort out if it is related to inadequate provision or ineffective utilization of critical care resources.

**Method:** All the data was extracted from hospital local HIS.

**Result :** Of these 3500 patients 325(9.3%) were high risk with an overall mortality of 185(5.3%) patients .high risk patients with prolonged hospital stay(9-30 days) vs standard risk (2-6 days). Mortality rate for specific surgeries were consistent with SKMCH averages. However only 113 (35%) high risk patients were admitted to critical care unit at any stage after surgery. Of 185 high risk patients who died, 90(49%) were admitted to critical care unit at any time and only 46 (25%) of these deaths occurred within a critical care unit area. Mortality rate were high amongst patients discharged and readmitted to critical care (20%) and amongst those admitted to critical care following initial postoperative care on a standard ward (12%).

**Conclusion:** These data suggest that the outcome of high risk oncological surgical patients can be improved by adequate provision and more effective utilization of critical care resources.

109 P

## COMPARISON BETWEEN INTRAVENOUS PARACETAMOL AND MORPHINE VERSUS KETAMINE AND MORPHINE FOR POSTOPERATIVE ANALGESIA IN BREAST SURGERY

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**Background:** Acute postoperative pain is one of the major problems faced by anesthetist. Intravenous analgesics are the most preferred methods of treatment for acute post-operative pain.<sup>1</sup> Multimodal analgesia is defined as addition of one or more drugs without opioids.<sup>2</sup> In this study, the combination of morphine and paracetamol was compared with combination of morphine and ketamine.

**Methodology:** This randomized control trial was done in Shaukat Khanum Memorial Cancer Hospital and Research Centre. Lahore. ASA I,II Female Patients age (16-60) undergoing Breast surgery. 150 patients were divided in two groups 75 each. Group A was given intravenous morphine 0.1mg/kg plus Paracetamol 15mg/kg and group B was given intravenous morphine 0.1mg/kg plus ketamine 0.5mg/kg. Primary outcome was decrease in VAS from baseline at 30 minutes to 4 hours postoperatively.

**Results:** The mean Visual Analogue Score (VAS) at 30 minutes in the Paracetamol + Morphine group was 4.54 +/- 0.93 and in the Ketamine + Morphine group was 4.57 +/- 0.82. All patients had a decrease in VAS at 4 hours after procedure. The mean decrease in VAS at 4 hours after procedure was 1.76 +/- 0.59. The mean decrease in VAS score at 4 hours was 1.27 +/- 0.42 in Paracetamol + Morphine group and 2.25 +/- 0.17 in Ketamine + Morphine group. There was a clinical difference between the two groups but it was statistically insignificant.

**Conclusion:** On the basis of this study, it is concluded that a planned multi model algorithm in the preoperative area can significantly reduce the pain scores in patients. This includes a strategy for assessment of clinical factors, patient-related factors, local factors and therapy targeted at matching the risk with the number of analgesics administered.<sup>3</sup> In perioperative patients a multimodal drug regimen should be used. The mean decrease in VAS pain score after intravenous morphine and Ketamine in combination for postoperative analgesia is not different than combination of intravenous morphine and Paracetamol in patients undergoing breast surgery. What are required are large scale randomized control trials that study the effects of Ketamine plus Morphine in all types of patients and surgeries and then compare it with other combinations.

110 P

**POSTOPERATIVE PAIN MANAGEMENT FOR ELECTIVE GASTROINTESTINAL SURGERIES IN SKMCH & RC****TASLEEM R, KHAN. AW<sup>2</sup>, HAIDER S, ALAM. T****DEPARTMENT OF ANESTHESIA AND PAIN MEDICINE, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

**Background:** In SKMCH&RC, we deal mostly with cancer surgeries. Pain management is an important issue during intraoperative and postoperative period. Post-operative pain control depends on different kind and severity of surgery. In patients who undergo major surgeries and experience severe postoperative pain are provided with multimodal analgesia that includes patient control analgesia (PCA) and epidural analgesia.

**Purpose:** To compare the effectiveness of multimodal pain regimes provided in SKMCH& RC for postoperative pain management in gastrointestinal surgery population.

**Method:** Performa based survey conducted to assess effectiveness of multimodal analgesia provided in elective gastrointestinal surgeries. The audit period included data of patients provided with multimodal analgesia from **1<sup>st</sup> June, 2017** to **31<sup>st</sup> August 2017**. Post-operative pain score and overall patient satisfaction level was recorded up till day 4 postoperatively.

**Results:** Total number of patients audited in period of 3 months were **201**. Out of **201**, 46 (**22.8%**) patients were provided with PCA and 155 (**77.1%**) patients were provided with Epidural analgesia. Patients underwent major gastrointestinal surgeries were included in this audit. Total patients provided with PCA were 46 (**22.8%**), patients fully satisfied were 35 (**76%**), patients partially satisfied were 11 (**23.9%**). Total patients provided with epidural analgesia were 155 (**77.1%**), patients fully satisfied were 129 (**83.2%**), patients partially satisfied were 26 (**16.7%**).

**Conclusion:** Our audit concluded that patient population was generally satisfied with postoperative analgesia. Although patient satisfaction was more in patients having Epidural analgesia over those who received PCA.

111 P

**POSTOPERATIVE PAIN MANAGEMENT IN ELECTIVE SURGERY****TASLEEM R, KHAN A.W, HAIDER S, ALAM T****<sup>1</sup>DEPARTMENT OF ANESTHESIA AND PAIN MEDICINE, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

**Background ::** In SKMCH&RC, we deal mostly with cancer surgeries. Pain management is an important issue during intraoperative and postoperative period. Post operative pain control depends on different kind and severity of surgery. In patients who undergo major surgeries and experience severe postoperative pain are provided with multimodal analgesia that includes patient control analgesia (PCA) and epidural analgesia.

**Purpose::** To compare the effectiveness of multimodal pain regimes provided in SKMCH& RC for postoperative pain management.

**Method::** Performa based survey conducted to assess effectiveness of multimodal analgesia provided in elective surgeries. The audit period included data of patients provided with multimodal analgesia from **1<sup>st</sup> June, 2017** to **31<sup>st</sup> July 2017**. post operative pain score and overall patient satisfaction level was recorded up till day 4 postoperatively.

**Results ::** Total number of patients audited in period of 2 months were **145**. Out of 145, **30(20.6%)** patients were provided with PCA and **115(79.3%)** patients were provided with Epidural analgesia. Patients underwent major surgeries like gastrointestinal **101(69.6%)**, urology **26(17.9%)**, thoracic **9(6.2%)**, Hepatobiliary **7(4.8%)** & orthopedic **2(1.3%)** surgeries were included in this audit. Total patients provided with PCA were **30(20.6%)**, patients fully satisfied were **26(86.6%)**, patients partially satisfied were **4(13.3%)**. Total patients provided with epidural analgesia were **115(79.3%)**, patients fully satisfied were **100(86.9%)**, patients partially satisfied were **15(13%)**.

**Conclusion::** Our audit concluded that patient population was generally satisfied with postoperative analgesia. Overall both PCA & Epidural equally satisfactory analgesia in post operative population.

112 P

**REASONS FOR ADMISSION AND OUTCOME TO AN ACUTE PALLIATIVE CARE UNIT IN PATIENTS WITH ADVANCED MALIGNANCY IN A CANCER HOSPITAL****ABDUL HANAN ALI RASHEED, IRUM GHAFOOR, AUN RAZA, HAROON HAFEEZ****DEPARTMENT OF INTERNAL MEDICINE, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

**Objectives:** To review various clinical presentations and their outcomes in patients presented in acute palliative care unit of SKMCH&RC.

**Methods:** This retrospective cross sectional review was carried out at Shaukat Khanum Memorial Cancer Hospital and Research Centre, Lahore. Medical records of all patients, admitted in palliative care unit from January 2013 till December 2014, were reviewed for reason of admission and outcome.

**Results:** There were a total of 346 admissions on the palliative care unit at SKMCH&RC over the study period. A total of 226 patients were admitted, with some patients needing more than one admission. Females were 55.3%. Breast and Colonic Ca were the most common cancer (19.5% each). Majority of patients (76%) had metastasis at multiple sites of body at the time of admission. Predominant presenting complaints were respiratory tract symptoms were (31.4%), followed by gastrointestinal symptoms (21.8%) and neurological symptoms (19.4%). Only 5.8 % patients were admitted for pain control. Median duration of hospital stay for each hospitalization was 4 (0-27). One third (33.1%) of the patients died during same hospital admission. At 8 weeks of hospitalization 55.1% patients were alive and rest of patients either died (27.0%) or lost to follow up (17.9).

**Conclusion:** Patients in palliative care unit usually present with their disease at advanced stage, with respiratory symptoms being most common type of presentation requiring inpatient admission with majority of the patients that is more than one half of total patients were being discharged home after treatment and one third patients died during hospitalization indicating that infections are the leading cause of admission to a Palliative care service and not only the advance cancer.

## 113 P

## COMPARISON OF PROPHYLACTIC EPHEDRINE VERSUS PLACEBO TO REDUCE HEMODYNAMIC CHANGES ASSOCIATED WITH ANESTHESIA INDUCTION WITH PROPOFOL.

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**Introduction:** Propofol, the most commonly used intravenous (IV) anesthetic agent is associated with hypotension during induction of anesthesia. Fentanyl is a frequently used opioid that joins with hypnotic agents to diminish hemodynamic responses to tracheal intubation. The cardiovascular depressant effects is added when both drugs are used simultaneously. As a vasopressor and sympathomimetic, ephedrine has been used safely and effectively for both prevention and treatment of anesthesia-induced hypotension. It can also decrease the hemodynamic responses caused by the administration of bolus propofol. The prophylactic use of high doses of ephedrine has demonstrated its usefulness in the treatment of propofol-induced hypotension. Prophylactic injection of ephedrine can help in prevention of hypotension and cause less decrease in MAP. This will help to improve our practice and decrease in morbidity.

**Aim:** The goal of this study was to compare the mean decrease in mean arterial pressure associated with anesthesia induction with propofol by using prophylactic ephedrine versus placebo in general anesthesia.

**Method:** The study design is Randomized controlled trial done in department of anesthesia, Shaukat Khanum Memorial Cancer Hospital & Research Centre, during the period of July and August 2017. Sample size of 60 patients was calculated, 30 patients in each group. Inclusion criteria included Patients of age 20-60 years, ASA I & II, either gender, planned to undergo surgery (transurethral resection of bladder tumours) under general anesthesia. Exclusion Criteria included patients with history of arrhythmia (medical record) History of allergy to any study medications, patients with history of hypertension before surgery (BP  $\geq$  140/90 mmHg), angina, heart failure.

Patients were randomly divided in two groups by using lottery method. In group A, ephedrine 5mg in 1cc volume IV was injected along with routine induction of anesthesia and in group B as placebo, sterile water 1cc I/v was injected during induction of anesthesia. All patients were anaesthetized with propofol 2mg/kg and fentanyl 1 $\mu$ g/kg. Anesthesia was maintained by O<sub>2</sub> 50%, Air 50% and sevoflurane 2%. At the time of induction, MAP will be measured and all patients will be followed-up for 3 minutes. After 3 minutes MAP will again be measured and decrease in MAP will be noted.

**Results:** The average value of decrease in mean arterial pressure in Group A (Ephedrine group) was 25.4 mmHg and the average decrease in MAP in Group B (placebo) was 31.7 mmHg. Incidence of hypotension in Ephedrine group was 60% as compared to placebo group 86.6%. All patients remained hemodynamically stable throughout surgery with no reported incidence of complications.

**Conclusion:** In low dosage, ephedrine is good in preventing hypotension due to induction dose of propofol.

## 114 P

**A RANDOMIZED CONTROL TRIAL TO DETERMINE EFFECTS OF PECS BLOCK ON PAIN RELIEF AND DISCHARGE FROM POST ANESTHESIA CARE UNIT IN BREAST CONSERVING SURGERIES****TAOSEEF AHMED , SYED RAZA MEHDI<sup>2</sup>, TAIMOOR AHMAD<sup>3</sup>, MUHAMMAD ZULQARNAIN CHAUDHARY<sup>4</sup>****DEPARTMENTS OF ANESTHESIA, ONCOLOGY, SURGICAL ONCOLOGY, SHAUKHAT KHANUM HOSPITAL, LAHORE, PAKISTAN.**

**Background:** Post-Operative pain is one of the most common and feared sequelae of Surgery. It may lead to patient distress, haemodynamic instability, neuro-endocrine disturbance, psychological stress for patient and family, prolonged hospital stays and patient morbidity ultimately increased cost of health care.

It has been demonstrated that combining General Anesthesia with regional technique can improve pain control and improve discharge times. The pectoral nerve (PEC) block, is a minimally invasive novel technique described for the first time by Blanco et al<sup>2011</sup> for regional analgesia for Breast Surgery. The effects of this block on pain control and discharge time in patients undergoing Breast Conserving Surgeries have not been proven yet.

**Subjects and methods:** We planned to include 120 patients undergoing surgery under general anaesthesia for breast conserving procedures. We did interim analysis of our ongoing study 34 patients of Group-A i.e. PEC block group and 39 patients of group-B i.e. control group were available.

**Results:** In this Interim analysis total 74 patients were included divided into two groups i.e. PEC block Group A and control Group B.

Mean age in years for group A 42.51±9.58, Group B 45.46±10.62. Mean Intraoperative morphine in mg used for Group A 1.2 ± 2.15, group B 3.08± 2.77 with p-value 0.002. Mean morphine in mg used as rescue analgesia in PACU for group A 0.36± 1.05 Group B 0.5± 1.21 with p-Value 0.59. Mean Tramadol in mg used as rescue analgesia in PACU for group A 8.57± 22.64 Group B 20.51± 29.73 with p-Value 0.05. Discharge time was calculated as mean duration of stay in PACU in minutes for group A 115.06±37.62 group B 122.36±39.21 with p-Value 0.42

**Conclusion:** It has been demonstrated from the interim analysis that there was significant decrease in morphine requirement intraoperatively and Tramadol requirement post operatively in PACU as rescue analgesia in the group which received PEC and serratus plane block before surgery. Hence PEC I, PEC II and serratus plane blocks provide better analgesia intra operatively as well as post operatively in PACU and reduction in opioid use in breast conserving surgeries

However there was no significant change in discharge time from PACU in both groups A and B. In this regard some other factors other than pain may contribute as well that are yet to be studied.

**KEY WORDS:** PEC block, breast conserving surgery, Post-operative analgesia

115 P

**MORPHOLOGICAL STUDY OF BREAST CANCER IN MUHAMMAD MEDICAL COLLEGE, MIRPURKHAS****AFSHEEN QAZI, ABDUL RAHIM SIYAL****MUHAMMAD MEDICAL COLLEGE, MIRPURKHAS, PAKISTAN**

**Objectives:** Breast cancer is still a leading cause of mortality among females in developing countries. This study was carried out to describe morphological types of breast cancer which would make a difference in the management of breast cancer in future.

**Methods:** This retrospective cross-sectional study was conducted in Department of Pathology, Muhammad Medical College, Mirpurkhas from January 2010 to January 2012. The entire mastectomy specimens which were received in the above mentioned duration were included in the study. Data was collected regarding age, bilaterality, size of tumour, histological types, grading of tumour were recorded and analysed.

**Results:** Total 106 patients were studied ranging from 21-75 years with average age of 43.33 years with the standard deviation  $\pm 13.34$ . Most common age group years 31-40 years with 39 cases (36.79). Infiltrating duct cell carcinoma was seen commonest pattern with 78 cases (78.41%) followed by lobular carcinoma in 8 cases (7.54%), colloid carcinoma in 5 cases (4.71%), papillary carcinoma in 4 cases (3.77%), schirrous carcinoma in 3 cases (2.83%), malignant phylloides in 3 cases (2.83%) and malignant fibrous histiocytoma in 2 cases (1.88%). There were 16 (15.09%) cases of grade I, 57 (53.77%) cases of grade II and 33 (31.13%) cases of grade III disease.

**Conclusion:** Breast cancer is still a common problem usually presents in a middle age group. These problems can be covered by the implementation of different screening and awareness programmes in our country which is required for early detection of tumour so the curative treatment will be easy.

116 P

**STUDY ON ENVIRONMENTAL FACTORS CAUSING HEAD AND NECK CANCER IN KARACHI, PAKISTAN.****ARIFA AZIZ<sup>1</sup>, YASMIN ABDUL RASHID<sup>2</sup>, ZEENAT SHAHEEN<sup>2</sup>, SAFIA AWAN<sup>2</sup>****DEPARTMENT OF ONCOLOGY, AGA KHAN UNIVERSITY HOSPITAL, KARACHI, PAKISTAN.  
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**Objective:** Head and neck cancer is one of the most prevalent cancers in South East Asia and its incidence is increasing with time. The objective of this study is to identify the environmental factors and their role in causing head and neck cancers and to bring into notice of government the commonest factors involved in head and neck cancers for their control and prevention.

**Material and method:** Questionnaire form was developed, which includes questions about environmental factors causing head and neck cancer. Forms were filled by patients after explaining the study to them and taking their written consent. This study was conducted at day care Oncology and in Radiation department of Aga Khan University Hospital, after approval from institutional ethical review committee. It is a prospective study with time duration of 6 months from December 2016- June 2017. Inclusion criteria is patients with cancers belonging to head and neck region aged 18 years and above, of any gender whereas; exclusion criteria is patients with cancers belonging to head and neck region but under 18 years of age, of any gender. SPSS ver.19 was used to perform statistical analysis.

**Results:** A total of 132 patients were included. Head and neck cancers are observed to be more common in male 101 (76.5%) as compare to females 29 (22%) and average age is  $50.4 \pm 12.9$  years in both gender. The commonest environmental factor causing head and neck cancer includes pan, mainpuri, supari, gutka and tobacco chewing and out of 132 patients 77 (58.3%) were using them. Among all the head and neck cancers the most common is squamous cell cancer of buccal mucosa 63 (47.72%) and less common is the cancer of orbit 4 (3%).

**Conclusion:** Incidence of Head and neck cancer, specifically squamous cell carcinoma of Buccal mucosa is increasing day by day and from data analysis it is seen that the commonest causes are different forms of smokeless tobacco, pan, gutka, mainpuri and supari which are easily available in the market. The only way to control it now is to increase public awareness programmes and request government to stop their supply in the market.

**Key words:** Pan; Gutka; Buccal mucosa cancer; male incidence; Public awareness Programmes; tobacco chewing.

117 P

**SURVEY OF THALASSEMIA PATIENTS RECEIVING TIMELY BLOOD TRANSFUSION****ARIFA AZIZ<sup>1</sup>, MOHAMMAD KHURSHID<sup>1</sup>, ZEENAT SHAHEEN<sup>2</sup>, AFSHEEN FEROZE<sup>2</sup>****DEPARTMENT OF ONCOLOGY, AGA KHAN UNIVERSITY HOSPITAL, KARACHI, PAKISTAN.**

**Objective:** The objective of this study is to identify the reasons of delays in scheduled blood transfusion, to promote education and awareness of importance of timely blood transfusions in thalassemia patients and to bring into the notice of physicians the reasons behind delays and how to overcome them.

**Material and method:** Data for this survey was collected from the patient charts, which included demographics of the patients i.e. name address, phone numbers, e-mail address, medical record number. Laboratory and next follow up plan data were also collected. This is a prospective study that took place at day care oncology, Aga Khan University Hospital Karachi. Total duration of this study was 2 months from April 2017 – June 2017. Inclusion criteria includes patients with thalassemia major, of any age or gender visiting day care oncology at Aga Khan University Hospital for receiving blood transfusion where as exclusion criteria includes patients of any age or gender with thalassemia intermedia / minor or other haemoglobinopathies.

**Results:** Thalassemia Patients receiving on time blood transfusions were 61.68% ,patients received delayed blood transfusions were 25.23% and patients received early blood transfusions were 13.08%.

**Conclusion:** Most of the patients are well aware and educated regarding their disease and its management and received blood transfusion on time the reasons for delayed blood transfusions from data analysis were because their hemoglobin level was within maintenance levels which is 9 - 10g/dl and very few had financial issues. Most frequent reason for early blood transfusions was either decrease in hemoglobin levels and in a very few cases school schedule/family travelling issues.

**Key words:** thalassemia major; on time blood transfusions; maintenance levels.

118 P

**CONTRIBUTION OF *RAD51D* GERMLINE MUTATIONS TO EARLY-ONSET AND FAMILIAL BREAST/OVARIAN CANCER PATIENTS IN PAKISTAN****HUMAIRA NAEEMI<sup>1</sup>, MUHAMMAD SOHAIL AFZAL<sup>1</sup>, FAIZ ALI KHAN<sup>1</sup>, NOOR MUHAMMAD<sup>1</sup>, UTE HAMANN<sup>2</sup>, MUHAMMAD USMAN RASHID<sup>1</sup>****<sup>1</sup>BASIC SCIENCES RESEARCH, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

**Objectives:** Approximately 30% of familial breast cancer (BC) is explained by monoallelic mutations in homologous recombination (HR) mediated DNA repair pathway genes (BRCA1, BRCA2, ATM, CHEK2, BRIP1, and PALB2). Recently, RAD51D involved in HR mediated DNA repair has been identified as another BC/ovarian cancer (OC) susceptibility gene. Given that deleterious mutations in a gene of the RAD51 family, RAD51C have previously been identified among BC/OC patients from Pakistan, the present study aimed to assess the prevalence of germline mutations in RAD51D gene among Pakistani BC/OC patients negative for BRCA1, BRCA2, CHEK2 and RAD51C germline mutations.

**Materials and methods:** The study included index patients from 370 families who were diagnosed with invasive BC or epithelial OC enrolled from June 2001 to January 2012 at SKMCH&RC. Mutation analysis of the complete RAD51D coding region and exon-intron junctions was performed using denaturing high-performance liquid chromatography analysis, followed by DNA sequencing of variant fragments. The novel RAD51D variants were also analysed for their potential functional effect by in silico analysis tools. Moreover, all identified variants were screened in 400 Pakistani healthy female controls.

**Results:** Nine different RAD51D sequence variants were identified comprising four missense, one synonymous, and four intronic variants. Two missense variants c.29C>T (p.P10L), c.932T>A (p.I311N), and one intronic variant c.481-23\_26delGTTC were predicted to be potentially deleterious using in silico analysis tools and identified in patients of Punjabi background. The novel missense variant, c.29C>T was identified in a 27-year-old BC patient with a family history of two BC cases. The other missense variant, c.932T>A was found in a 30-year-old early-onset BC (EOBC) patient. The c.29C>T and c.932T>A variants were also noted in a healthy control with a family history of acute lymphoblastic leukemia or Hodgkin disease, respectively. The novel intronic variant, c.481-23\_26delGTTC was identified in a 30-year-old EOBC patient. This variant was predicted to create a cryptic splice-acceptor site and not detected in 400 healthy controls, further supporting its pathogenicity.

**Conclusion:** Our findings suggest that RAD51D mutations may not contribute significantly to BC/OC predisposition in Pakistan.

119 P

## EPIGENETIC ANALYSIS OF HEAD AND NECK SQUAMOUS CELL CARCINOMA AND ITS SUB-SITES IN BETEL AND TOBACCO ADDICTED AND NON-ADDICTED PATIENTS

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**Purpose/Objectives:** Head and neck squamous cell carcinoma (HNSCC) is among the most common type of cancer. Epigenetics controls transcription of genetic code. DNA methylation is one of the most studied epigenetic modifications, which alters the genes by affecting their expression. This study is planned to analyze DNA methylation of cell signaling pathway genes and their association with HNSCC and its sub-sites in betel and tobacco addicted and non-addicted patients.

**Materials and Methods:** Blood samples of 156 HNSCC patients were collected. A total 300 patients of HNSCC and 300 normal control subjects will be included in this study. Gender, sub-sites of HNSCC and addicted and non-addicted patients distributions were calculated. Chi-square statistical tests were performed to compare addicted and non-addicted patients groups. The results were analysed by using SPSS Statistics 17.0 and Tools for Science (online tool). Epigenetics of cell signaling pathway genes will be investigated in further study by DNA extraction, bisulfite modification, methylation-specific PCR and directly DNA sequencing.

**Results:** Of the total 156 enrolled subjects 78.21% were males and only 21.79% were females. Among all HNSCC patients 82.69% were diagnosed with oral cavity squamous cell carcinoma (OCSCC), 5.77% were diagnosed with larynx squamous cell carcinoma, 3.85% were diagnosed with hypopharynx squamous cell carcinoma and the remaining 7.69% were diagnosed with other HNSCC. Tobacco and betel addicted patients were 88.89% while non-addicted patients were 11.11%. HNSCC was significantly associated with addicted patients,  $\chi^2 = 28.9$ ,  $p < 0.001$ . Among all sub-sites, OCSCC was significantly higher in addicted patients,  $\chi^2 = 18.4$ ,  $p = 0.010$ . Epigenetic alteration might be found in the genes of cell signaling pathway in HNSCC and its sub-sites in further study.

**Conclusions:** OCSCC is more common among all HNSCC patients. It might be due to chewing habit of betel and tobacco being more common in HNSCC patients. This study may increase our understanding of the molecular basis of HNSCC. By giving an insight into the processes of HNSCC development, the understanding of epigenetic information might be translated into clinical benefit in HNSCC as biomarkers.

**Keywords:** Epigenetics, DNA Methylation, HNSCC and its sub-sites, Addicted and non-addicted patients

120 P

## AGREEMENT BETWEEN “SMOOTH MUSCLE MYOSIN HEAVY CHAIN” AND “SMOOTH MUSCLE ACTIN” FOR DIFFERENTIATION OF INVASIVE AND NON INVASIVE BREAST LESIONS IN TRUCUT BIOPSIES

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**Introduction:** Carcinoma of the breast is the commonest malignancy in females all over the world and second leading cause of death due to cancer among females. Differentiation of benign proliferative breast lesions from malignant tumours is of paramount importance. In-situ carcinomas and benign epithelial proliferative lesions retain an intact peripheral layer of Myoepithelial cells (MECs) whereas this cell layer is lost in invasive carcinomas

In routine H&E stained sections diagnosis of several proliferative breast pathologies are difficult, since MECs may not be easily visible. This difficulty is augmented in tru-cut biopsies due to limited tissue sample. Here immunohistochemical markers like Smooth Muscle Myosin Heavy Chain (SMMHC) & Smooth Muscle Actin (SMA) play a pivotal role.

**Purpose:** The rationale of this study was that in a resource limited setting of our country we need to select the best possible immunomarker for routine diagnostic purposes. The study was designed to see the agreement between SMMHC and SMA for differentiation of benign from malignant breast lesions and carcinoma in-situ from microinvasive carcinomas in tru-cut biopsies. Traditionally SMMHC demonstrates less cross-reactivity to myofibroblasts than either SMA or other markers. No such studies are available from our country.

**Objective:** To determine the degree of agreement between SMA and SMMHC for identifying MECs in invasive and non invasive breast lesions in trucut biopsy

**Methodology:** 75 cases of breast trucut biopsies were included in this study. After initial evaluation each case was stained for SMMHC & SMA.

**Results:** KAPPA Statistics were applied to calculate agreement between these two markers in differentiating non invasive lesion from invasive lesions. A measure of agreement of .967 was obtained which is almost perfect agreement between the two markers. As a pitfall for SMA it was observed that of 75 cases, 58 cases showed myofibroblast staining whereas with SMMHC only 20 cases showed myofibroblast staining.

**Conclusion:** This study concludes that there is near complete agreement between SMMHC & SMA. Therefore both can be used as a myoepithelial cell marker in trucut biopsies in our resource limited setting. SMA nevertheless is a slightly more cumbersome stain to interpret subjectively as stromal myofibroblast staining can confound its interpretation.

121 P

**AWARENESS AMONG COLLEGE GIRLS REGARDING BREAST CANCER: A KAP STUDY IN LAHORE. PAKISTAN****SHAMAILA HASSNAIN****DEPARTMENT OF COMMUNITY MEDICINE,  
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**Objective:** To assess the level of awareness, knowledge, attitude and screening practices among young college girls with regard to breast cancer.

**Study Design:** Cross-sectional study.

**Place and duration of study:** 4 female colleges of Lahore were selected. Study duration was 6 months from February 2016 to July 2016.

**Materials and Methods:** A non-probability convenient sampling was carried out. Sample size was 400 including women aged 14-35 years. Data was collected anonymously on self-administrated questionnaire regarding awareness, knowledge and screening practices about breast self-examination (BSE), clinical Breast examination (CBE) and mammography.

**Results:** Results of our studies revealed that 34% participants had heard of BSE, 30% about CBE and 29.5% of mammography. Only 21.8% had ever performed BSE and 14% had ever received CBE. On enquiring the reasons for not performing BSE 29% did not know how to do and 14.3% indicated embarrassment as the cause of not performing CBE. Regarding the source of information internet was identified as the most popular one (64.8%) followed by breast cancer campaigns (58.5%). There was much lack of information regarding mammography but majority of the participants were aware of the age (35-40) to start this screening procedure. Knowledge about breast cancer presentations and risk factors was also inadequate among participants.

**Conclusion:** Our studies revealed lack of awareness and knowledge with regard to breast cancer and its screening methods. There is utmost need to enhance the awareness through different channels and encourage the performance of BSE, CBE and mammography among females from very young age to detect abnormalities at early stage.

**Key words:** Breast Cancer, Awareness, and Screening practices.

122 P

## CC-CHEMOKINE RECEPTOR 5 AND ITS DELETION: IMPLICATIONS IN BREAST CANCER OUTCOMES AND RISK

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**Introduction/Aim:** CC Chemokine receptor type 5 (CCR5) is a receptor for CC Chemokines. It is present on cell surface and have a high affinity for chemically stimulated cytokines. Moreover, it also stimulates immune response and recruits immune cells to the site. The CCR5 gene have 32 base pairs (bp) deletion (CCR5 $\Delta$ 32), leading to the synthesis of malformed receptor and consequently weaken its function. This deletion has been found to be associated with the growth and advancement of different cancers. This study is aimed to observe CCR5 $\Delta$ 32 mutation and detect its pivotal role in breast cancer metastasis.

**Methodology:** Total 100 tissue samples were taken from breast cancer patients. The deletion was genotyped by polymerase chain reaction (PCR) and direct DNA sequencing. Statistical and bioinformatics tools were used for data analyses.

**Results:** The allelic forms of CCR5 $\Delta$ 32 are homozygous insertion (I/I), heterozygous deletion (I/D) and homozygous deletion (D/D). Tissue specific mutation analyses revealed that all the samples showed homozygous insertion (I/I), while the heterozygous(I/D) and homozygous deletion(D/D) was not represented by any sample. Statistical analyses showed that deletion in CCR5 gene may not have any effect on breast cancer development and spread. More investigations and analyses are required to access the role of CCR5 $\Delta$ 32 on breast cancer outcomes.

**Conclusion:** The role of CCR5 in breast cancer development is contradictory and unclear. More information with additional number of samples and mutations in CCR5 gene are needed to get the better understanding about the disease.

123 P

**EVIDENCE-BASED PRECISION MEDICINE FOR FAMILIAL BREAST CANCERS IN LOCAL POPULATION**

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**Purpose/Objectives:** Breast cancer is one of the leading cause of death in Pakistani women with mortality rate of 26.76 per 100,000. A significant proportion of breast cancers are familial. In the era of precision medicine, the underlying molecular alterations need to be investigated. We, therefore analysed putative genes in a cohort of eighty-six breast cancer patients from Pakistani population. In this poster/presentation, we are providing a framework for the selection of targeted therapies in our population, based on these findings.

**Material/Methods:** Organic method was used for DNA extraction. Mutation analysis was done by Next Generation sequencing.

**Results:** Novel and significant results were observed during investigation. Identified genes are involved in cell cycle, apoptosis and DNA repair.

**Conclusion/Significance:** The evidence-based recommendations shall be fruitful for the control and management of population-specific cases of breast cancer.

124 P

**TRANSLATIONAL INHIBITOR HOMOHARRINGTONIN AS POTENTIAL THERAPEUTIC TOOL OF HUMAN NEUROBLASTOMA THROUGH MITOCHONDRIAL GENE EXPRESSION.****HINA SHAKEEL 1, ATIA TUL WAHAB 2 MUHAMMAD WAQAR HAMEED 3 AND MUHAMMAD IQBAL CHOUDHARY4****DR. PANJWANI CENTRE FOR MOLECULAR MEDICINE AND DRUG RESEARCH, INTERNATIONAL CENTRE FOR CHEMICAL AND BIOLOGICAL SCIENCES, UNIVERSITY OF KARACHI, PAKISTAN.**

**Background:** Neuroblastoma is a solid extracranial neuroendocrine tumour and most common type of cancer of infancy. It originates from any neural crest of the developing sympathetic nervous system and undergoes malignant transformation. It is a complex heterogeneous disease and many factors such as molecular, cellular and genetic features are involved in its development. Mitochondria plays a pivotal role in neuronal cell survival or death. Neurons are highly reliant on aerobic oxidative phosphorylation (OXPHOS) for their energy needs. Defective activities of mitochondrial complexes I, II, III and IV have been identified in many neurological and neurodegenerative diseases. Human mitochondria with its own genetic material meet the needs required for the assembly of subunits of the oxidative phosphorylation (OXPHOS) complexes.

**Objectives:** A number of translational inhibitors are known that could potentially effect translation of mitochondrial protein synthesis. Among these Homoharringtonine was selected for the present study. The effect of these translational inhibitors on mitochondrial gene expression for the treatment of neuroblastoma are not well established. Therefore, in this study, we have investigated the effects of these translational inhibitors on the expression of human mitochondrial gene expression in SH-SY5Y neuroblastoma cells.

**Methodology:** To study the effect of translational inhibitor Homoharrintonin, we use IC50 and IC25 concentration through Flow cytometry. Mitochondrial gene expression analysis is studied through QRT PCR. Mitochondrial protein expression analysis is studied via Western blotting. Mitochondrial induce oxidative stress is measured through ROS generation DCFDA flourimetric assay. Statistical analysis is analysed through one-way ANOVA.

**Results:** We observed a significant effect on the level of mitochondrial transcripts upon exposure to these translation inhibitors in SH-SY5Y cells, however, the effects on expression of mitochondrial proteins were minimal. This suggests that translational inhibitors might not directly affect the abundance of mitochondrial proteins.

**Conclusion:** Translational inhibitors induce significant effect on mitochondrial gene expression that can be lead to the new targeted therapy for treating Neuroblastoma.

125 P

**ASSOCIATION OF NEWLY IDENTIFIED MUTATION IN TUMOUR SUPPRESSOR GENE: RELATIONSHIP WITH ORAL SUBMUCOUS FIBROSIS (OSF) AND ORAL SQUAMOUS CELL CARCINOMA (OSCC) IN PAKISTAN**

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**Objective:** Oral submucous fibrosis (OSF) is a precancerous condition which is found to be most prevalent in Pakistan these days. It is characterized by excessive deposition of collagen leading to inflammation and partial or complete damage of epithelia. The habitual chewing of areca nut, betel nuts, betel quid, gutka or manpuri may cause OSF and ultimately transform it into oral squamous cell carcinoma (OSCC). The current study is proposed to find out the genetic association between OSF and OSCC by screening and comparing the reported mutations in TP53 gene.

**Materials and Methods:** Total 300 tissue and blood samples will be collected from OSF and OSCC patients from the local hospitals of Karachi. The patients will be selected on the basis of their chewing habit history of areca nut, betel nuts, betel quid, gutka or manpuri. The DNA will be extracted by standard phenol chloroform method. Polymerase chain reaction (PCR) amplification of targeted fragments will be done through specific primers. Single nucleotide polymorphism (SNP) will be detected by Direct DNA sequencing. The sequence will be analysed by using bioinformatics and statistical tools.

**Results:** The previously detected genotypic variations of TP53 found in OSCC patients may or may not be associated with OSF patients. These results might be helpful to identify the role of TP53 gene in the development and progression to OSCC.

**Conclusions:** Mutations of TP53 in OSF may act as a biomarker that would helpful in the diagnosis OSCC. These biomarkers may be useful for the treatment and management of OSF and OSCC.

**Keywords:** Oral submucous fibrosis (OSF), mutations in TP53, Oral squamous cell carcinoma (OSCC), Single nucleotide polymorphism (SNP)

126 P

## BREAST CANCER AWARENESS; KNOWLEDGE, ATTITUDE AND PRACTICE AMONG NON-MEDICAL UNIVERSITY STUDENTS

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**Objective:** To determine knowledge, attitude and practice of non-medical university students about breast cancer.

**Methods:** This KAP study was carried out at Bahauddin Zakariya University Multan during the month of July 2017. Sample size was calculated according to the number of female students (about 17000) in the university. Data was collected through a Pre tested, structured questionnaire, comprising of 24 (open and closed ended) questions, along with demographic information.

**Results:** Mean age of participants was  $22.6 \pm 2$  years. Majority was unmarried (99%), belonged to rural area (61%), and studied science subjects (71%).

More than 50% participants were aware of cancer's relationship with increasing age, lack of breast feeding, obesity, and smoking. About 45% showed correct knowledge about the symptoms of breast cancer while 38.5% said they had no idea. More than 60% of the subjects had awareness about diagnostic modalities and treatment. Majority (>80%) had positive attitude and intended to see a doctor if they ever felt a breast lump though 53% felt shyness towards a male doctor. Results of the study revealed a dearth of screening practices even among those who were aware of the screening methods. Clinical breast examination (CBE) was the most common breast screening practice among respondents followed by Breast self-examination (BSE) and mammography. The reasons provided for non-performance of BSE were lack of knowledge to perform BSE (44.6%) or not having a breast complaint (39.3%) while 15% of the study subjects doubted its effectiveness.

**Conclusion:** Majority of study participants had restricted knowledge, poor practices, but positive approach regarding breast cancer. There is a need for the Development of efficient educational resources intended at decreasing obstacles to breast screening practices and early detection, and to bring about a change in the behaviour.

127 P

## UNDERLYING FACTORS OF MEDICATION ERRORS AT A TERTIARY CARE HOSPITAL, PAKISTAN

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**Introduction:** Medication error is considered to be an important indicator of a patient's safety. Several error producing factors contribute to its occurrence and may result in patients' morbidity and mortality.

**Aim:** Using a mixed method design, this study aimed to identify the underlying factors of medication errors. The study was conducted at a tertiary care hospital in Karachi, Pakistan.

**Methods:** Following the eligibility criteria, 64 medication errors, reported in this period from December 2011 to March, 2012 were included in this study. Data was collected by reviewing documents pertinent to the errors, a self-administered survey questionnaire, and face to face interviews with doctors, pharmacists, and nurses who had committed an error.

**Results:** Analysis of the quantitative data showed that of the 64 errors, 49 were actual errors, 15 were near misses and 2 were classified as sentinel events. The highest percentage of errors was committed in the administration phase, by nurses in the morning shift and they were working more than forty five (45) hours per week. The content analysis of the qualitative data led to two themes – stress and workload and the violation of policies.

### **Conclusion:**

These findings have implications for the hospital administration, and recommendations provided in this study will help them to bring an improvement in the system

128 P

## ASSOCIATION BETWEEN METHYLTRANSFERASE GENE *MTR* GENE A2756G POLYMORPHISM WITH RISK OF HEAD AND NECK CANCER

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4. DEPARTMENT OF PATHOLOGY, ISLAMABAD MEDICAL & DENTAL COLLEGE 44000, ISLAMABAD, PAKISTAN.

**Objective:** The 5-methyltetrahydrofolate-homocysteine methyltransferase gene (*MTR*) encodes the methionine synthase enzyme (OMIM 156570) which is involved in folate metabolism it synthesizes the methionine by remethylation of homocysteine. A single nucleotide variation *MTRA2756G* may affects the function of methionine synthase enzyme which plays an important role in the development of head and neck squamous cell carcinoma (HNSCC).

**Methods:** In current study, 292 patients diagnosed with head and neck squamous cell carcinoma and 324 normal individuals without any history of cancer were enrolled as control. EDTA whole blood samples of both patients and control individuals were collected and DNA was extracted using conventional method. All samples were genotyped for *MTR* A2756G polymorphism by using Polymerase Chain Reaction Restriction Fragment Length Polymorphism. Frequency of polymorphism was compared between HNSCC patients and control individuals. The association of *MTRA2756G* polymorphism with risk factors was statistically checked by multivariate analysis tool of Multiple Logistic Regression (MLR) whereas univariate analysis (Chi Square) was done for group comparisons.

**Results:** Univariate analysis revealed that the frequency of groups like age, smoking and *MTR* A2756G genotype was different in HNC patients and controls (p-value <0.05). Multivariate analysis showed that smoking (adjusted OR, 3.7; 95% CI, 2.3 – 6.0), Age groups 41 – 50 years (adjusted OR, 3.6; 95% CI, .9 – 6.7) and > 60 years (adjusted OR, 3.5; 95% CI, 1.7 – 7.3), *MTR* 2756 AG genotype (adjusted OR, 2.1; 95% CI, 1.3 – 3.5) is associated with increased risk of HNSCC.

**Conclusions:** Our data suggests that the genetic polymorphism *MTR* A2756G is associated with the occurrence of HNSCC in Pakistani population while the individuals between 40 to 50 years of age and those who use tobacco are at a greater risk of developing HNSCC.

**Key words:** *MTR* A2756G; Genetic polymorphism; Head and Neck cancer; PCR-RFLP; head and neck squamous cell carcinoma

129 P

## AN ASTUTE APPROACH IN SUPPORTIVE TREATMENT PROTOCOL WITH HIGH DOSE METHOTREXATE OFFERS COST & EFFICACY BENEFIT FOR PRIMARY CNS LYMPHOMA PATIENT

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### Objective/Purpose:

Methotrexate, one of the antimetabolite has diverse indications and established inpatient protocols with high doses ( $>1\text{gm}/\text{m}^2$ ) in childhood and adult cancers. However, inpatient delivery results in additional financial burden & psychological stress that leads to nonconformity to treatment. We report a case where High Dose Methotrexate (HDMTX) was employed in outpatient setup.

### Study Design/Methods:

A 31 year old male diagnosed with Primary CNS lymphoma admitted for cycle one High Dose Methotrexate treatment after first cycle patient decided to withdraw from his treatment owing to unaffordability & fear of hospital stay. We designed cost effective day care protocol in order to provide continuum of care. Protocol contains oral Bicarbonate 140 mEq Q6h from preceding admission till Methotrexate clearance. Upon admission aggressive hydration (D5W+ 150 mEq  $\text{NaHCO}_3/\text{L}$ + 10 mEq  $\text{KCl}/\text{L}$  to be run @  $200\text{ml}/\text{m}^2/\text{hour}$ ) given for 4 hours. High Dose Methotrexate ( $3.5\text{gm}/\text{m}^2$ ) infused over 3 hours when urine pH ( $>7.0$ ) followed by post hydration (D5W+ 150 mEq  $\text{NaHCO}_3/\text{L}$ + 10 mEq  $\text{KCl}/\text{L}$ @  $150\text{ml}/\text{m}^2/\text{hour}$ ) for 2 hours. On subsequent days hydration (D5W +150 mEq  $\text{NaHCO}_3/\text{L}$ + 10 mEq  $\text{KCl}/\text{L}$  to be run @  $125\text{-}150\text{ ml}/\text{m}^2/\text{hour}$ ) for 9 hours. Oral Leucovorin 30mg Q6H had begun 24 hours after Methotrexate. Patient was counseled to take oral fluids (12-14 glasses) at home.

### Results /Key Findings:

Complying with the desired parameters of a urine pH  $>7$ , serum Methotrexate level of  $0.05\text{ }\mu\text{M}/\text{L}$  attained within 72 hours in the absence of any toxic manifestations; augmented efficacy & safety were observed with an added advantage of a 40% cost reduction approximately. Moreover, the approach under study attained urine alkalization much hastier in comparison to our institute's conventional guidelines.

### Conclusion/Recommendations:

This approach was observed to be safer, comparatively time saving and cost effective for our patient. Administration of HDMTX in outpatient setup may reduce treatment cost & patient compliance.

130 P

## ESTIMATING MALNUTRITION AT DIAGNOSIS IN NEWLY DIAGNOSED PEDIATRIC ONCOLOGY PATIENTS

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**Background:** Nutritional depletion is a major problem among pediatric oncology patients in the developing world. This is associated with treatment related toxicity and mortality. Based on various studies children with malignancies die due to the effects of undernourishment rather than the malignancy itself. Majority of patients are malnourished at diagnosis. These patients have prolonged hospital stay, as a result of which they are more prone to infections. Early identification, thorough continuous nutritional assessment and management of at risk patients can help prevent complications associated with malnutrition.

The purpose of this study is to estimate the prevalence of malnutrition that is present at the time of diagnosis of pediatric oncology patients.

**Methodology:** A sample size of 14 pediatric patients, newly diagnosed with cancer within last three months (i.e from June to August 2016) was taken to estimate the nutritional status of patients at the time of diagnosis. Height, weight, BMI, height for age, weight for age, and BMI for age percentiles of patients were collected. Analysis was done using growth charts for height, weight, and BMI and percentiles were noted for all patients. Written consent was taken from all patients participating in the study.

**Results:** Overall analysis of the data showed that out of 14 patients, 8 children were found to have their height, weight and BMI percentiles below 25<sup>th</sup> which indicates that they were already undernourished at the time of diagnosis. Furthermore, 5 out of these 8 children were found to have height, weight and BMI percentiles of less than 10 which is a clinically significant finding.

**Conclusion:** The need for adequate nutrition at the time of diagnosis is as significant as it is during and after the completion of treatment. Therefore, proper growth monitoring at the time of diagnosis and timely reporting and management is required to prevent child from developing further complication related to nutrition after the start or completion of treatment. This study will help health care professionals to plan holistic strategies to focus and integrate nutritional therapy as part of cancer therapy. Moreover, prospective studies are required to estimate the effects of undernourishment at the time of diagnosis on the overall treatment and prognosis of patient.

131 P

**IMMUNOHISTOCHEMICAL STATINING FOR KI 67 INDEX, ER/PR HER 2 STATUS AND MOLECULAR SUBTYPES IN BREAST CANCER****SUMERA BUTT, SARAH RASHEED, TASKHEER ABBAS, IQRA SHAHID, MOHAMAMD ABUBAKAR.****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTER, LAHORE, PAKISTAN.**

**Background:** Breast cancer is a molecularly heterogeneous disease. Gene expression studies have divided breast cancer into at least 4 major subtypes for risk stratification. In developing countries Immunohistochemical staining for ER/PR, Her 2 neu and Ki 67 index can be very helpful in rationalizing treatment options.

**Methods:** Tumours from a cohort of 102 patients with invasive breast carcinoma were subtyped by Hormone receptor status (ER, PR), HER 2 status and Ki 67 index by IHC and treated according to their risk group. HIS was used to define clinical variable like age, treatment, recurrence and follow up.

**Results:** We studied 100 patients with invasive breast cancers, age ranged from 28-78 years with a median age of 50. All patients were treated with surgery, chemotherapy either in adjuvant or neoadjuvant setting followed by radiotherapy and hormonal treatment if indicated. The median follow up was 120 weeks (36-144). Ki 67 was divided into 2 main groups as less than 20 and above 20. ER hormone receptor was found to be positive in 81 patients and negative in 19 patients. 40 ER positive patients (81.63%) had a low Ki index and 41 (80.39%) had a high Ki index which could suggest luminal B subtype. Triple negative tumours were treated as basal like. Ki 67 index was also found to be high in grade 3 tumours (75%) and in young breast cancer patients (60%). However no statistically significant difference in PFS and overall survival was noted in any group.

**Conclusion:** We conclude that Ki 67 can serve as a marker along with ER/PR and Her 2 status to differentiate between molecular subtypes based on IHC especially in developing countries where gene expression profiling can be a burden on resources. We could not detect any statistically significant PFS and OS difference due to small sample size and fewer events.

132 P

**DELETION IN CC-CHEMOKINE RECEPTOR GENE (CCR5): RELATIONSHIP WITH ORAL SQUAMOUS CELL CARCINOMA (OSCC)****SAIMA SALEEM<sup>1</sup>, FARIA FATIMA<sup>1</sup>, ABDUL HAMEED<sup>2</sup>, ABID AZHAR<sup>1</sup>****DR. A. Q. KHAN INSTITUTE OF BIOTECHNOLOGY & GENETIC ENGINEERING (KIBGE),  
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**Introduction/Aim:** Chemokines are the cytokines which are generated and migrated towards chemicals stimulus and have their receptors on cell surface. CC-chemokine receptor type 5 (CCR5) is one of the receptors of chemokines. Under certain chemical stimulus, it signals the assemblage of immune cells and modulate their activity. Exon 3 of CCR5 gene contains a deletion called CCR5 $\Delta$ 32. This deletion will form a distorted nonfunctional receptor. It has been implicated that CCR5 $\Delta$ 32 is one of the key players of propagation and metastasis of various cancers. Focus of this study is to detect CCR5 $\Delta$ 32 and its role in oral squamous cell carcinoma (OSCC) development and spread.

**Methodology:** Blood samples were collected from oral cancer patients and matched controls after taking their informed consent. Polymerase chain reaction (PCR) was used to investigate the deletion (CCR5 $\Delta$ 32) in patients and controls. Data were analysed by using different statistical and bioinformatics tools.

**Results:** Deletion in CCR5 is characterized by two alleles, *deleted allele* (D) and *inserted allele* (I). Patients of this study showed only one type of allelic variation which was homozygous insertion (I/I). Whereas, the controls showed two allelic variations which are homozygous (I/I) and heterozygous (I/D) insertion and none of the patient and control sample showed homozygous deletion (D/D). By allelic frequency and genotypic frequency, OSCC and its risk was not found to be associated with 32bp deletion of CCR5 gene.

**Conclusion:** Deletion of CCR5 show inconsistency and ambiguity in OSCC development. Further, analyses on molecular level for CCR5 $\Delta$ 32 have been required to access its role in OSCC progression and metastasis. This will not only reduce uncertainty, but also give better insight of immune system existing across the cancerous site.

**Key words:** CCR5, OSCC,  $\Delta$ 32 Allele, Missense Mutation

133 P

**IMPACT OF BASELINE PROGNOSTIC FACTORS ON THE OUTCOME OF EARLY STAGE PEDIATRIC HODGKIN LYMPHOMA IN A TERTIARY CARE CANCER CENTER.****<sup>1</sup>SINDHU II, <sup>1</sup>MAHREEN A, <sup>1</sup>WALI RM, <sup>2</sup>RIAZ S, <sup>1</sup>ASAD M.****<sup>1</sup>DEPARTMENT OF PEDIATRIC ONCOLOGY. SHAUKAT KHANUM CANCER HOSPITAL AND RESEARCH CENTER LAHORE, PAKISTAN.****<sup>2</sup>DEPARTMENT OF NUCLEAR MEDICINE. SHAUKAT KHANUM CANCER HOSPITAL AND RESEARCH CENTER LAHORE, PAKISTAN.**

**Purpose-** Paediatric Hodgkin lymphoma has the good outcome after treatment. Cure rates approach to 80-90%; however, 15-20% of patients will have resistance to therapy or relapse after treatment. Prognostic factors help risk stratify treatment and identify patients at risk for failure. Early stage disease is limited to Stage I and II. A number of factors can affect the prognosis for these patients which include the presence of systemic symptoms (i.e., fevers, drenching night sweats, or significant weight loss), a very high erythrocyte sedimentation rate, an increase in the number of nodal sites involved, older age, and a large mediastinal mass. The aim of this study is to see our institutional experience on the impact of 3 baseline prognostic factors; B symptoms, ESR, Bulk Volume of >200ml on the outcome of Early Stage Pediatric Hodgkin Lymphoma.

**Methods:** Medical records at a large regional cancer centre from April 2012 to October 2015 were retrospectively collected after IRB approval. Data was reviewed for patients with newly diagnosed Hodgkin lymphoma on histopathology and less than 20 years of age at the time of diagnosis.

**Results:** A total of 117 patients were included, these were all stage I&II. All were treated with 2 cycles of COPDac/ABVD. B symptoms were positive in 22 patients (18.8%), ESR >30 in 35 patients (29.9%) and Bulk volume > 200ml in 9(7.7%). The number of relapses were 7 (6%), out of which 2 (28%) had positive B symptoms, 1 (14%) had bulk volume > 200ml and 3 (42%) had ESR > 30. Two patients died (1.7%) and 115(98.3%) are alive in remission. P value for all factors was not significant. Forty month EF was 93% and OS was 98%

**Conclusion:** This study shows that there is no impact of baseline prognostic factors on the EFS and OS of patients with early stage (I&II) Hodgkin lymphoma.

**134 P****COMPARISON OF SUBSTANCE P IMMUNOLocalIZATION AMONG BREAST, ORAL AND COLORECTAL CARCINOMA TO EVALUATE ITS DIAGNOSTIC AND THERAPEUTIC POTENTIAL****RIFFAT MEHBOOB<sup>1</sup>, AMBER HASSAN<sup>2</sup>, IMRANA TANVIR<sup>3</sup>, RIZWAN ULLAH KHAN<sup>3</sup>****<sup>1</sup>BIOMEDICAL SCIENCES, KING EDWARD MEDICAL UNIVERSITY, LAHORE, PAKISTAN****<sup>2</sup>UNIVERSITY OF VETERINARY AND ANIMAL SCIENCES, LAHORE, PAKISTAN****<sup>3</sup>FATIMA MEMORIAL HOSPITAL, LAHORE, PAKISTAN**

**Background:** In this study we will target breast cancer (BC), oral squamous cell carcinoma (OSCC) and colorectal cancer (CRC). **Aims:** Aim of the present study was to evaluate the expression and immunolocalization of Substance P (SP) in different grades of BC, OSCC and CRC.

**Patients and Methods:** 34 BC biopsies were immunohistochemically analysed by using SP antibody. 3 cases were well differentiated, 8 were moderately differentiated and 23 were poorly differentiated. HE, ER, PR, HER2 and Ki-67 staining was performed. 40 OSCC biopsies were immunohistochemically analysed with SP antibody, including 29 male and 11 female cases. 35% were well differentiated, 35% moderately differentiated and 30% poorly differentiated OSCC. 30 CRC biopsies were also immunohistochemically analysed by using SP antibody. There were 4 cases of poorly differentiated (PD), 17 moderately differentiated (MD) and 9 cases of well differentiated CRC included in this study. The mean age of patients was 45.74 years.

**Results:** In BC, Maximum cases fall in the age range of 30-50years. Mean age of patients was 46.65 years. 68% of cases were SP positive. 30% moderately differentiated, 61% poorly differentiated and 8% of well differentiated carcinoma cases were positive for SP. SP expression intensity was maximum (+3) in poorly differentiated and moderately differentiated cases. In OSCC, the majority of patients were in the age range of 41–80 years. 62% of the cases were positive for SP and SP positivity was expressed in the cytoplasm of the tumour cells. Most of the positive cases were from the tongue region. 93% of moderately differentiated, 92% of poorly differentiated and 8% of well-differentiated carcinomas were SP-positive, but SP expression intensity was highest in poorly differentiated cases (+3). More positive patients were males (68.96% of all male patients) with moderately and poorly differentiated OSCC. Among all positive cases, 48% were poorly differentiated, 48% moderately differentiated and 4% well differentiated. In CRC, 13% of poorly differentiated and 57% moderately differentiated cases were SP positive. SP cell stain intensity was high (+3) both in poorly and moderately differentiated.

**Conclusion:** SP is over expressed in BC and there is significant association between grade of tumour and SP over expression. Its expression can be used as a predictor for BC prognosis. In OSCC, strong expression of SP in poorly and moderately differentiated cases suggests a role of SP in the progression and development of tumour. Expression of SP in the current study increased as the proliferation of cells increased.

We also suggest SP /NK-1R system as a potential therapeutic strategy to inhibit and manage BC and OSCC. But it is not useful marker for CRC as SP is naturally highly expressed in colorectal cells and depleted in case of carcinoma.

135 P

**ETS-RELATED TRANSCRIPTION FACTOR ERG AND DIFFERENTIAL EXPRESSION OF ITS ISOFORMS IN BREAST CANCER.****AQSA SADIQ, ZAEEMA KHAN AND NAILA MALKANI****DEPARTMENT OF ZOOLOGY, GC UNIVERSITY, LAHORE, PAKISTAN**

**Objective:** Breast cancer is the major type of cancer in women worldwide and the second leading cause of death too. The current study was conducted to identify and evaluate ERG and its isoforms expression in breast cancer and to correlate the expression of ERG isoforms in breast cancer progression.

**Methods:** Breast adenocarcinoma cell line MDA-MB- 231, primary HUVECs and breast tumour tissues were used for analysis. Histological examination of tissue samples was done by Hematoxylin and Eosin staining. To analyze the expression of different isoforms of ERG quantitative PCR was performed and analysed by LinReg software and Pfaffl equation.

**Results:** The histological data showed that one tissue sample (S2) was invasive lobular carcinoma (ILC) at stage IIA and the other (S3) was invasive ductal carcinoma (IDC) stage IIIB. The qPCR analysis showed that ERG isoforms 1, 2, 3, 4, 5 and 8, with highest expression of ERG3, were expressed under normal conditions in primary HUVECs while ERG6 and 7 were totally absent. In MDA-MB- 231 cell line, the expression of ERG isoform 3, 7 and 8 was considerable while all other isoforms were not detected. When the differential expression of ERG isoforms was observed it showed that the expression of ERG isoforms was found variable in normal breast tissue and tumour samples. In normal breast tissue ERG1 and 3 were detected. However, in breast tumours of IDC, ERG isoform 3 and 8 were present while in case of ILC along with 3, and 8 ERG isoform 2 was also found.

**Conclusions:** It can be concluded that almost all ERG isoforms expressed normally in endothelial cells while they show differential expression in cancerous cells. In tumour tissue samples, the higher expression of ERG8 in both IDC and ILC may be linked to inhibiting the expression of other isoforms like ERG1 that normally expressed in normal breast tissue and results into disparity of transcriptional activity of expressed isoforms.

136 P

## TRANSLATIONAL RESEARCH: GERM-LINE MUTATION PROFILE OF BREAST CANCERS WITH CLINICAL AND THERAPEUTIC CORRELATIONS IN THE LOCAL POPULATION

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**Purpose:** Cancers have complex aetiology. Consanguineous populations provide the most appropriate model for the investigations of probable genetic component(s). The hallmark example is the identification of *BRCA1/2* gene defects in Ashkenazi Jews. Discovery of genetic alterations underlying breast cancer pathology has played a definitive role in the development of better treatment protocols and survival rates across the countries, where such information is available. In Pakistan, the estimated consanguinity is 56.4%. The age-standardized rate (ASR) of the incidence of breast cancers in females is among the highest in Asia, whereas the mortality rate is one of the highest in the world.

**Objective:** The pilot study is a component of research project, which has been designed to address the limitation of molecular data for breast cancers in Pakistani population.

**Materials and Methods:** The study comprised of ninety-six (96) participant, with ninety-four (94) breast cancer patients and two (02) healthy volunteers. After DNA extraction, quantity and quality control, twenty-seven (27) established and candidate breast cancer genes were analysed in eighty-eight (88) DNA samples. The investigations were carried out by a genomic capture, massively parallel next generation sequencing assay on Illumina HiSeq2000 assay with 100bp read lengths. Copy number variations were determined by partially-mapped read algorithm.

**Results:** The analysis revealed germ-line mutations, across three genes in 12% of the patients. The identified mutations consist of both novel and previously reported alterations and result in protein truncation. Data on remaining twenty-four (24) genes indicates that if involved, these are more likely to undergo somatic mutations rather than the germ-line mutations in the local population. The construction of molecular profile of breast cancers in the local population, includes the analyses of the clinical, therapeutic and familial parameters.

**Conclusion:** The study provides framework for translational research in breast cancers in the local population. The design also incorporates potential for the development of preventive as well as treatment strategies against breast cancers in Pakistani population.

137 P

## COMPARISON OF EFFICACY OF GRANISETRON VERSUS ONDANSETRON FOR PROPHYLAXIS OF POST-OPERATIVE NAUSEA AND VOMITING IN FEMALE PATIENTS UNDERGOING BREAST SURGERY

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**Background:** Anaesthesia can be provided by different techniques for various breast surgeries. Most day case surgery patients are moved to Post Anaesthesia Care Unit with minimal discomfort from nausea, vomiting, or pain. Postoperative nausea and vomiting (PONV) is among the most distressing complication of anesthesia and surgery.

**Objective:** To compare the efficacy of Granisetron and Ondansetron in preventing PONV in female patients undergoing breast surgery.

**Methodology:** Interventional randomized controlled trial having 250 selected patients who meet the inclusion criteria were randomly allocated to the two groups by using random number table. The patients in Group A was given Granisetron 0.04mg/kg IV and Group B was given Ondansetron 0.1mg/kg IV within 30 minutes of completion of surgery. After procedure patients were shifted to PACU and later on shifted to floor and assessed 12 hours postoperatively for PONV. All the data was entered and analysed on SPSS version 20.

**Results:** The mean age of the patients was 30.14±11.61 years. The efficacy achieved in 136(54.40%) patients. Insignificant difference was found between the study groups with the efficacy i.e. p-value=0.580.

**Conclusion:** Both Granisetron and Ondansetron are equally effective in preventing PONV in female patients undergoing breast surgery.

**Keywords:** Surgery, Breast, PONV, Granisetron, Ondansetron

138 P

## COMPARISON OF SINGLE LOW DOSE DEXAMETHASONE WITH PLACEBO ON BLOOD GLUCOSE CONCENTRATIONS DURING PERIOPERATIVE PERIOD IN PATIENTS UNDERGOING BREAST SURGERY UNDER GENERAL ANAESTHESIA

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**Introduction:** Dexamethasone, a corticosteroid is known to produce elevations in the blood glucose concentration, but the effect of a single intraoperative dose of dexamethasone on the blood glucose concentration is unknown. If dexamethasone is used, even as a single dose intraoperatively, blood glucose concentrations should be carefully monitored and necessary measures should be taken for hyperglycemia .

**Objectives:** To compare single low dose dexamethasone at time of induction versus placebo for mean blood glucose concentration after 2 hours of administration in patients undergoing breast surgery under general anaesthesia.

**Study design:** Randomized controlled trial; **Setting:** Department of Anaesthesia, Shaukat Khanum Memorial Cancer Hospital and Research Centre, Lahore. **Duration of study:** Study was carried out over a period of eight months from 17-03-2016 to 16-11-2016.

**Subjects and methods:** A total of 100 patients undergoing surgery under general anaesthesia for major breast surgeries, i.e. Modified Radical Mastectomy, wide local excision or quadrantectomy were included. Group-A was given Dexamethasone and group-B was administered Normal Saline i.e placebo.

**Results:** Mean age of the patients was  $47.62 \pm 11.80$  and  $44.72 \pm 10.24$  years in group-A and B, respectively. All patients in both groups were females. Mean BMI in group-A was  $28.98 \pm 5.67$  and in group-B was  $28.77 \pm 5.17$  ( $\text{kg}/\text{m}^2$ ). Mean height in group-A was  $1.56 \pm 0.04$  and in group-B  $1.55 \pm 0.06$  meter. Mean weight of the patients in group-A was  $70.56 \pm 14.19$  and in group-B was  $70.01 \pm 13.70$  Kg. Mean blood glucose concentration (at baseline) in group-A was observed  $98.44 \pm 11.34$  and in group-B  $96.48 \pm 10.97$  ( $p=0.382$ ). Mean blood glucose concentration (after 2 hours) in group-A was seen  $116.02 \pm 14.90$  and in group-B  $107.68 \pm 12.82$  ( $P=0.003$ ). Stratification with regard to age, and BMI was carried out.

**Conclusion:** In conclusion, administration of single low dose dexamethasone to patients undergoing breast surgery causes significant increase of perioperative blood glucose concentration however increase in blood glucose concentration remained within normal physiological range.

**Key words:** Low dose dexamethasone, Blood glucose concentrations, General anaesthesia, Breast surgery

139 P

## COMPARISON OF EFFICACY OF GRANISETRON VERSUS ONDANSETRON FOR PROPHYLAXIS OF POST-OPERATIVE NAUSEA AND VOMITING IN FEMALE PATIENTS UNDERGOING BREAST SURGERY

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DEPARTMENT OF ANAESTHESIA, SHAUKHAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN.

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**Conclusion:** Both Granisetron and Ondansetron are equally effective in preventing PONV in female patients undergoing breast surgery.

**Keywords:** Surgery, Breast, PONV, Granisetron, Ondansetron

140 P

## A 6-MONTHS REVIEW OF BREAST MULTIDISCIPLINARY TEAM MEETING RECORDS IN A TERTIARY CARE CANCER HOSPITAL IN PAKISTAN

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**Aims:** Treatment of breast cancer through multidisciplinary team (MDT) meeting is well established throughout the world. We aimed to evaluate our patients' MDT meeting decisions, whether they were actually followed or if there were any changes in planned treatments.

**Methods:** All consecutive breast cancer patients discussed in breast MDT between January and March 2016 were included from a prospectively maintained computerized database. Breast MDT plans were noted and compared to actual treatments given in the subsequent 6 months. Any deviations from original plans along with reasons were recorded.

**Results:** 200 breast cancer patients were discussed in breast MDT during the 3-months study period. Electronic records were available for 100% patients on the database. Amongst 191 patients (95.5%) MDT plans were completely followed. However in 9 patients (4.5%) actual treatment deviated from the MDT plans. Reasons for not following the original plans included patient choice (n=5) and medical fitness (n=4), where patients opted not to undergo chemotherapy, surgery, radiotherapy or a combination of these treatment modalities.

**Conclusions:** In a minority of patients (4.5%), MDT plans were not followed, due to inevitable reasons of patient choice and being medically unfit for treatment. However, this 6-month review of breast MDT confirms that in overwhelming majority of patients (95.5%), our unit is following the breast MDT plans, hence adhering to the recommended guidelines of providing breast cancer treatment through MDT.

## 141 P

## CANCER STATISTICS OF INTERIOR SINDH - FROM 2008 TO 2014.

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**Introduction:** Cancer is a heterogeneous disease, influenced by age, gender and the environmental factors. This study present data of new cases presenting from interior Sindh during the period from 2008 to 2014.

**Methods:** During the period of seven years (January 2008 to January 2014) prospectively collected institutional data was retrieved. All patients presented with primary cancers were included and pattern of top ten tumours was assessed. The data was analysed using SPSS 21.0.

**Results:** During the study period a total of 15906 patients reported with primary cancer were reported. Pattern of distribution is given in the table.

New Cases of cancer from 2008 to 2014										
Male (%)						Female (%)				
	Site	overall	≤40	41-60	≥60	Site	Overall	≤40	41-60	≥60
1	Oral Cavity	20.5	24.7	22.5	10.9	Breast	25.1	22.3	29.1	19.0
2	Lung	10.5	2.0	13.7	15.5	Oral Cavity	13.5	9.9	15.8	16.3
3	Liver	7.6	2.9	9.1	10.8	Ovary	5.8	7.1	4.9	4.6
4	Larynx	4.8	1.9	5.8	6.7	Molar Pregnancy	5.1	12.0	0.5	0.1
5	Urinary Bladder	3.9	1.2	4.5	6.2	Cervix	5.0	4.0	5.5	6.1
6	NHL	3.8	5.6	3.5	2.2	Esophagus	4.9	5.0	5.1	4.3
7	Prostate	2.9	0.3	2.0	8.2	Lung	2.6	1.0	3.2	5.5
8	Esophagus	2.8	3.2	2.7	2.6	Liver	2.5	1.4	3.1	4.3
9	Testes	2.8	7.1	1.1	0.3	NHL	1.9	2.4	1.3	1.9
10	Brain	2.6	5.4	1.4	1.3	Urinary Bladder	1.7	0.7	2.2	3.3

**Conclusion:** Among males and females there has been a different pattern of cancers. However among young males oral cancers remains at the top while lung at the older age and breast cancer among females remains at the high rate regardless of age.

142 P

## TO INVESTIGATE THE ETIOLOGY OF UPPER EXTREMITY AMPUTATION IN LOWER PUNJAB

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**Back ground:** According orthopedic medical field amputation is a life securing surgical procedure.

**Objectives:** To investigate the aetiology factor of amputation in our department to find out the most relevant factor of amputation in view of its effect on the individual and the society, domestic violence

**Material and methods:** two and half year of registration with the help of cross sectional study Data collected of extremity amputation performed in our hospital. Patient registered in P. R centre of upper limb extremity questioning age gender cause of amputation level of amputation time of amputation

**Subject / patients:** 4636 total population of the study was old new amputee registered in PRC RTEH surgeries done in our hospital, sample size amputees was 1174. The data analyzed by Ms.excel, HMIS

**Result:** The records of 1174 patients were analysed there were 824 male, 350 Female and the ratio (2.3:1). The age ranged from 0-60 Years. Mechanical crush injury called local language tokka machine cause 886 (76 Percent), RTA 101, Electric Shock 64, Congenital 29, Bomb Blast 8, Gunshot were 8, Disease like diabetics, Gangrene, Cancer were 15, Train accident were 5, Others like Fall, domestic violence, injuries, infections are 41.

**Conclusion:** Crush injury with tokka machine was the main leading cause of ULA. Road traffic accident is the second leading cause upper limb amputation. Need to spread awareness to Use of proper machine covered reduce the incidence of amputation in our environment in regard of domestic violence early involvement of good neighbor will also reduce the cause of injuries.

**Key words:** ULA (upper limb amputations), RTA (road traffic accidents) PRC physical rehabilitation centre

143 P

## PATTERN OF CANCER PRESENTATION AT EXTREMES OF AGES IN PAKISTANI POPULATION

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**Introduction:** Cancer is a heterogeneous disease, influenced largely by age. This study was therefore aimed to assess pattern of cancers occurring in Pakistani population at extreme of age.

**Methods:** During the period of seven years (January 2008 to December 2014) prospectively collected institutional data was retrieved. All patients presented with primary cancers were included and pattern of cancers was assessed among young patients age under 20 and older patients aged over 65 years of age. The data was analysed using SPSS 21.0.

**Results:** During the study period a total of 15906 patients reported with primary cancer were reported. Pattern of distribution is given in the table.

Estimated New Cases of cancer from 2008 to 2014				
<20 years			>65 years	
	Site	Percentage	Site	Percentage
1	Brain	8.9	Oral cancers	11.9
2	NHL	8.5	Lung	11.9
3	Molar pregnancy	7.9	Liver	8.2
4	ALL	7.7	Breast	7.6
5	HL	7.3	Prostate	7.0
6	Osteosarcoma	5.1	Urinary Bladder	5.4
7	Ovary	4.6	Larynx	5.3
8	STS	4.5	Oesophagus	3.1
9	Multiple myeloma	4.1	Cervix	1.7
10	Oral cancers	2.6	NHL	1.7

NHL=Non Hodgkin's Lymphoma, ALL= Acute Lymphoblastic leukemia, HL= Hodgkin's lymphoma, STS= Soft tissue sarcoma

**Conclusion:** The young population present with different pattern of cancers as compared to older adults. These cancer pattern suggest influence of age.

144 P

**CLASSIFICATION OF CNS TUMOURS ACCORDING TO WHO 2016 GUIDELINES:  
SKMCH REVIEW****R. JAVED****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE,  
PAKISTAN.**

**Introduction:** Brain tumours are responsible for approximately 2% of cancers deaths. The old method of classification based entirely on light microscopic appearance was previously used to diagnose brain tumours. The 2016 WHO classification of tumours of the CNS has completely revolutionized the way CNS neoplasms are defined especially diffuse gliomas. We are documenting molecular stratification of diffuse gliomas based on the WHO 2016 classification done at a single centre from June 2015 till date.

**Method:** Paraffin blocks of patients diagnosed with diffuse gliomas on light microscopy were taken from 2015 to date. IHC for IDH1 mutation and ATRX, PCR for IDH and FISH for 1p19q codeletion were performed and results entered in SPSS.

**Results:** A total number of 102 cases of diffuse gliomas were assessed (100 internal & 2 external cases). IDH1 mutation was detected in 71 of these cases. (31 cases were IDH wild type). ATRX (IHC) was performed on 81 samples out of which 42 showed ATRX loss based on which they were classified as diffuse astrocytomas. ATRX was retained in 40 samples on which 1p19q codeletion by FISH was tests. 1p19q codeletion was detected in 18 patients based on which they were called Oligodendrogliomas (1p19q codeleted. However, we also have 22 samples in which ATRX was retained and 1p19q codeletion by FISH was also not detected. These tumours tend to behave like glioblastoma multiforme with worse prognosis.

**Conclusion:** Molecular classification is the current gold standard to identify glioma subtypes. This helps to stratify these patients according to their biological aggressiveness and aid clinicians to better plan treatment strategies. In developing countries like Pakistan, this is a step forward to improve patient care and management.

145 P

**ROLE OF PRION AND PRION LIKE PROTEINS IN CANCER DEVELOPMENT****MUHAMMAD AZHAR HUSSAIN<sup>1</sup> \*, MUHAMMAD SAJED<sup>2</sup>, ISHTIAQ AHMED<sup>3</sup>, SAMRAN KHAN BUTT<sup>4</sup>, IFTKHAR AHMED<sup>5</sup>****1 FS LAB SERVICES, CHAKWAL, PAKISTAN****2 LAHORE GARRISON UNIVERSITY, LAHORE, PAKISTAN****3 SCHOOL OF MEDICAL SCIENCE, GRIFFITH UNIVERSITY, GOLD COAST CAMPUS, SOUTHPORT, AUSTRALIA****4 ISLAMABAD DIAGNOSTIC CENTRE, ISLAMABAD, PAKISTAN****5 PAEC GENERAL HOSPITAL, ISLAMABAD, PAKISTAN**

Cancers, whether familial or sporadic, are global health concern. The underlying phenomenon of somatic or oncogenic mutations in cancer development is still unclear. Recent studies provided an emerging evidence of fundamental role of Prions (PrPc) and prion like proteins as well as protein only inheritance not only in neurodegenerative disorders but also in cancer development. Data of many recent studies employed modern scientific techniques like crystallography, FTIR, electron microscopy, genomic and proteomic computational approaches revealed that PrPc are over expressed most abundantly in the brain along with diverse range of non-neuronal tissues such as lymphoid cells, lung, heart, kidney, gastrointestinal tract, muscle, and mammary glands. Recent data indicate positive relation between expression of PrPc with proliferation as well as metastasis of gastric, colorectal, breast, pancreatic and prostate cancers. Experiments revealed direct correlation between tumorigenicity and metastasis with expression of PrPc such as PRNP, p53 ag while PrPc induced epithelial to mesenchymal transition via the ERK2 (MAPK1) pathway is also conferred high metastatic ability. Prions are also known to induce epigenetic changes in gene expression and hyper-activate MAP kinase (MAPK) signalling which promotes oncogenesis in humans. Existence of protein-only somatic inheritance in mammalian cells might also contribute to cancer phenotypes. It has been highlighted that protein misfolding induced by prion and prion like proteins is involved in oncogenesis as well as metastasis while resistance of therapeutic targets is also observed in recent studies which indicates importance of Prion mechanisms as potential diagnostic markers and therapeutic targets.

146 P

## INCIDENCE OF MALIGNANCIES IN RENAL TRANSPLANT PATIENTS ON CHRONIC IMMUNOSUPPRESSION

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**Background-** It is well established fact that immunosuppressed allograft recipients are at increased risk of developing malignancy. Overall there is 3-4 fold increase compared with age-matched controls in general population, reported to be 4 - 18 % in various series.

**Objective -** To determine the incidence of malignancies in renal transplant patients on chronic immunosuppression.

**Methodology-** We retrospectively reviewed patients who underwent renal transplant and followed at Sindh Institute of Urology and Transplantation between 1995 to date.

**Results-** A total of 5200 patients were included in this study. Among these patients, n-106 (2%) had a diagnosis of malignancy. Mean interval between transplant and diagnosis of malignancy was 98 months. Mean age at diagnosis was 34.5 years (28-42 years). Type of malignancies found in this data set were : PTLD(33%), Kaposi sarcoma(19%), Skin cancer(16%), Gastrointestinal tract malignancies(7%), Hematological cancer(3%), Urological cancers(6%), and others(16%). Among PTLD, majority were males (34 /36). Most common diagnosis in PTLD was DLBC (80%). Another common malignancy was Kaposi sarcoma (n-20). Serum mean creatinine on stopping immunosuppression after diagnosis of malignancy was 2 mg/ dl.

**Conclusion-** This study demonstrates that overall incidence of malignancies in renal transplant patients is low, which corresponds to incidence in other studies. For diagnosis at initial stages, patients should be followed closely and imaging and biopsy play a major role.

**Key words-** PTLD- post transplant lymphoproliferative disorder-. DLBCL-Diffuse large Bcell lymphoma. SIUT- Sindh Institute of Urology and Transplantation.

147 P

**EXPLORING THE POTENTIAL OF CAMEL MILK AGAINST CANCER****FARWA TARIQ<sup>1\*</sup>, UMAR KAZMI<sup>2</sup>, AYSHA SAMEEN<sup>1</sup>, MOAZZMA FAROOQ<sup>1</sup>, IRUM ZULFIQAR<sup>1</sup>  
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Cancer, a very serious illness is one of the leading cause of death in Pakistan. Research studies shows that food, herbs, other complementary and alternative practices can be used for the treatment and alleviation of the cancer symptoms. Camel milk is considered as super food now-a-days and its popularity is increasing day by day due to its nutritional and therapeutic benefits. It contains 80 to 86 % water, 2.15 to 4.90% protein, 1.2 to 6.4% fat and 2.40 to 5.80 % lactose. It contains lactoferrin, immunoglobulins, lysozyme, vitamins and minerals. The positive health effects of milk proteins can be presented as anti-oxidative, immuno-modulatory, tissue damage control activity, anti-carcinogenic, anti-thrombotic and antihypertensive. The immune system of camel is much stronger as compared to humans so the antibodies are also present in greater proportion especially the camel milk colostrum has rare and beneficial properties. High phytic acid is present in CM colostrum that binds with iron and inhibits the cancer cell proliferation. Alpha lactalbumin is involved in the self-destruction of cancer cells leading to prevention of cancer cell proliferation. CM colostrum prevents DNA damage to cells by enhancing oxidative markers and greatly enhances NK (natural killer) cell activity. High content of IgG immunoglobulins makes the survival of cancer cells impossible. Cancer cells can be starved to death by lactoferrin as it makes iron unavailable for cancer cells proliferation and it also stops the metastasis. Chemotherapy reduces the level of the B vitamins and they are present in high amount in CM. Studies reveal that CM inhibits the inhibited HepG2 and MCF7 cells proliferation through the activation of caspase-3 mRNA and activity levels, and the induction of death receptors in both cell lines. CM also enhances the expression of, heme oxygenase-1, production of ROS and oxidative stress markers. Both intrinsic and extrinsic pathways are involved in this process. Numerous other benefits of CM are there but unfortunately, this nutritious food is not given attention and mostly wasted. Taste is also not familiar to the public of Pakistan so here it the responsibility of scientists and product developers to find out the ways to make it acceptable for the people to get the maximum benefit from the gift of nature.

148 P

## FREQUENCY OF NAPSIN A POSITIVITY IN OVARIAN CLEAR CELL CARCINOMA AND SEROUS CARCINOMA

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**Background:** Clear cell Carcinoma (CCC) of ovary shows aggressive behavior with poor prognosis among other subtypes of ovarian cancers. Napsin A is specific for clear carcinomas in ovary.

**Purpose:** The main purpose of the study is to determine the percentage of person correctly identified for ovarian CCC and serous carcinoma with Napsin A.

**Methods:** There were 31 cases were of serous carcinoma and 30 were with CCC selected randomly from the electronic data bank. In order to evaluate the positive expression in both subtypes (serous carcinoma and Clear cell carcinoma) of ovarian cancer and NAPA (a protein), Napsin A was performed on all the cases. Napsin A is expressed in the cytoplasm of alveolar macrophages, type II pneumocytes, pancreatic ducts and acini, and in renal tubules (detected by the chromogen fast red). Data was analysed with SPSS 20 inc.

**Results:** Napsin A showed positivity in most of the Clear cell carcinoma 31(52%) while negative in serous carcinomas 27 (44%). Clear cell tumour had a high frequency ( $p=0.0001$ ) of capsule rupture.

**Conclusion:** Expression of Napsin A as marker is frequently positive among clear cell carcinoma with its greater ability of diagnosis.

**Keywords:** Ovarian cancer, clear cell carcinoma, serous carcinoma, Napsin

149 P

## PLASMA FIBRINOGEN AS BIOMARKER OF STABLE AND EXACERBATED CHRONIC OBSTRUCTIVE PULMONARY DISEASE

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**Background:** In this cross-sectional study we targeted smokers with history of  $\geq$  ten pack years, with and without Chronic Obstructive Pulmonary Diseases (COPD). **Aims:** Aim of the present study is to evaluate plasma fibrinogen level in stable or exacerbated state of COPD as a diagnostic inflammatory biomarker.

**Patients and Methods:** 75 smokers, all males were included in the study in three different groups. 25 healthy smokers with history of  $> 10$  pack years of smoking were taken as control, 25 smokers participants were diagnosed cases of COPD on spirometry and were in stable state according to the GOLD staging of COPD ( $FEV_1/FVC < 70$  &  $FEV_1$  is  $\leq 80\%$  of predicted value of  $FEV_1$ ) and 25 smokers with COPD were in exacerbated state of disease ( $FEV_1/FVC < 70$  &  $FEV_1$  is  $\leq 30-50\%$  of predicted value of  $FEV_1$ ). Blood sample of all 75 participants was taken and plasma fibrinogen level was measured by indirect coagulation (Clauss) method. Normal plasma fibrinogen level is in the range of 150-230mg/dl.

**Results:** In control group, Maximum cases fall in the age range of 40-50years. Mean age of participants was 45.64 years. On spirometry  $FEV_1/FVC$  ratio was  $> 70$  and mean plasma fibrinogen level found to be 235.0mg/dl. In group of patients of COPD in stable state, the majority of patients were in the age range of 41–80 years,  $FEV_1/FVC$  ratio was  $< 70$  while plasma fibrinogen level was 400.5 mg/dl which was significantly higher than the levels in healthy smokers. Third group of patients in exacerbated state of COPD was exhibiting  $FEV_1/FVC$  ratio  $< 70$  with much less  $FEV_1$  values on spirometry but mean plasma fibrinogen level was 453.24mg/dl. More significant rise in plasma fibrinogen was seen with worsening of inflammatory condition of disease so higher fibrinogen levels were observed in exacerbated cases of COPD in comparison of stable COPD patients.

**Conclusion:** Plasma fibrinogen level is higher in COPD patients and there is significant association between inflammatory staging of airways and fibrinogen levels as well. There was an established inverse relationship between the spirometric findings and fibrinogen levels in smokers. Its level can be used as a diagnostic marker as well as a predictor for COPD prognosis. In exacerbated condition of COPD further rise of fibrinogen suggests a role of plasma fibrinogen in the progression and worsening of COPD. Level of fibrinogen in the current study increased as the staging of disease progressed.

We also suggest plasma fibrinogen testing as a potential diagnostic strategy to replace spirometric method as only available diagnostic tool to differentiate between COPD and asthma up-till now.

150 P

**CANCER AND HOW THE PATIENT SEES IT; PREVALENCE, MYTHS, NEGLIGENT LIFESTYLES AT A GOVERNMENT SECTOR HOSPITAL****SAIRA RASHEED, SANA IRFAN, ALVIA SHAFIQUE, JAVAID AHMAD KHAN, NOUSHEEN, SAFIA AWAN****JINNAH MEDICAL UNIVERSITY, KARACHI, PAKISTAN  
AGA KHAN UNIVERSITY HOSPITAL, KARACHI.**

**Objectives:** The incidence of cancer is currently rising in our country despite advancements in diagnostics owing to changes in lifestyles and myths associated with it. However, the data available on prevalence and patient perception regarding cancer stands limited. Success against cancer is unlikely if the real culprits are ignorant habits and bizarre myths. This study was aimed to investigate on common cancers at a government sector hospital and to gain insight to patient knowledge of the disease.

**Material & Method:** This was a cross-sectional study conducted on 402 cancer patients from Jinnah Postgraduate Medical Centre. An informed consent was obtained from the patient. If a patient was unaware of his/her diagnosis, the state of the disease was not revealed to the patient. A self-made questionnaire was used to assess the norms related to cancer prevalence in our society, associated myths, and the most common risk factors per them.

**Results:** A total of 402 participants consented to participate in the study. Mean age was  $42.3 \pm 15.07$  years, 204(50.7%) were females and more than half 310(77%) were married. Majority were illiterate 190 (47.3%) belonging to poor socioeconomic class 111(27.6%). Around 336(83.6%) patients were aware of their cancer. Biomass exposure was found in 147(37%), drug abuse in 132(33%) and smoking 63(16%). 103 (25.6%) presented with positive family histories. Primary site of tumour was breast in 100 (24.9%) followed by blood 74(18.4%). 208 (51.7%) patients presented with locally extended cancers and 265 (65.9%) were on chemotherapy. A fine majority of 376 (93.5%) reported of financial constraints owing to the disease. The commonest risk factors for cancer reported by patients included fate 328(82%), use of gutka 284(71%), injuries 282(70%), betel nut 281(70%) and smoking 275(68.4%) while 222(55.5%) considered black magic and 236 (58.75%) considered evil eye as a risk factor for cancer too.

**Conclusion:** Maximum patients presented with breast cancer while the second most commonly presented cancers were hematological. Ignorant lifestyles and addictions were found to be common; further exacerbated by diminished knowledge of preventable causes of cancer and firm conviction in mythological causes like black magic, evil eye and injuries.

151 P

## LEVEL OF MALES' PARTICIPATION DURING PERINATAL PERIOD IN RURAL AREAS OF DISTRICT LAYYAH

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**Background:** Although pregnancy is not a disease but life partner and other family members must realize distress and fatigue caused by the pregnancy to pregnant women. Husbands play a very important role in ensuring healthy pregnancy outcomes. Males are mainly responsible in taking decision regarding health seeking of pregnant women in rural areas of Pakistan. This study aimed to explore the level of males' participation during perinatal period and to assess their knowledge about danger signs of perinatal period in rural areas of District Layyah, South Punjab.

**Methods:** A community based cross sectional study on pregnant women and their husbands was undertaken in one union council (UC) of district Layyah. 369 couples were selected using proportionate simple random sampling technique. Three hundred and thirty-five agreed and filled the complete questionnaire. Couples having pregnancy or delivery during last one year were included in the study. Women, who were divorced, separated or living away from their spouses was excluded. Structured interviewer administered questionnaire adopted from a Nigerian study was translated into Urdu and used to collect data via home visiting. Ethical approval was taken from IRB and written informed consent from the participants. Data was entered and analysed in SPSS V.16.

**Results:** Males' level of participation in domestic chores was 326 out of 335 (97.31%) and their overall level of knowledge regarding danger signs of pregnancy was 135 out of 335 (40.30%). Economic status (Chi square 6.23, *p*-value 0.045) and husband educated more than wife (Chi square 10.20, *p*-value 0.006) were significantly associated with level of knowledge regarding danger signs of pregnancy. Whereas, parity was (Fisher exact test 8.07, *p*-value 0.017) significantly associated with level of males' participation in domestic chores.

**Conclusion:** Husbands have high level of participation in domestic chores but moderate level of knowledge regarding danger signs of perinatal period. Males must be educated about danger signs of perinatal period as their active participation can lead to healthy outcome of pregnancy.

**Keywords:** Perinatal Care, Spouse, Participation, Knowledge

152 P

## PERCEPTION OF CLINICAL ENVIRONMENT AMONG NURSING STUDENTS OF A PRIVATE COLLEGE OF NURSING IN PAKISTAN

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**Objectives:** To measure the perceptions of bachelors of science in nursing students about clinical learning environment. To compare the perceptions of bachelors of Science in nursing students among gender.

**Methodology:** An analytical cross sectional survey was carried out from June-2015 to December 2015 in a private college of nursing in Islamabad, Pakistan. A sample of 195 nursing student from bachelors of Science in nursing programs (116 Generic BSN & 79 Post-RN BSN Program) were selected purposively. Data was collected through trained data collector. An adapted with permission and self-administered Clinical Learning Environment, Supervision and Nurse Teacher (CLES + T) scale was used to collect the data. Data was analysed by using SPSS Version 16.0, Ethical approval was taken from Institutional Review Board. Written informed consent was taken from participants.

**Results** All the participants (195) were from two undergraduate programs; Generic BSN 59.5% (116) and Post RN BSN 40.50% (79). Overall 49.23% (96) nursing students were agreed to some extent with the clinical environment. The findings of study indicated pedagogical atmosphere agreement to some extent 45.13% (88); leadership style of ward manager agreement to some extent {91 (46.67%)}; nursing care on the ward and role of nurse teacher fully agree 21.54% (42) and supervisory relationship 20% (39). Supervisory relationship component score indicated highest level of disagree to some extent 14.36% (28) as compared to other components. Median score of each component remains four which indicates students' perception about clinical environment was high. Student regards quality of clinical environment in good category. The inferential statistics were carried out for gender association with CLES+T components. There was significant difference in pedagogical atmosphere Pearson Chi-square [(7.64, df(3), p(0.050)], supervisory relationship F-exact (24.19, df(4), p(0.000) and role of nurse teacher (23.7, df(4), p(0.000) however other two components; leadership style of ward manger and nursing care on the ward were not significant.

**Conclusion** Strengthening the triad of student, supervisor and teacher could improve the clinical environment perceptions. Clinical learning is vital in nursing education as it forms the basis of clinical practice and patient care. Therefore, positive perceived environment is imperative for the nursing students.

**Key Words:** Nursing, Perception, Clinical environment

153 P

## ANOMALOUS ORIGIN OF RIGHT CORONARY ARTERY- A RARE CAUSE OF APICAL ISCHEMIA

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**Abstract:** Coronary artery anomaly is an uncommon condition with prevalence on coronary angiography between 0.61% and 5.64%. Most of these variations appear to be of no clinical significance but some do have potentially serious sequelae. Anomalous origin of the right coronary artery from the left sinus of valsalva with subsequent coursing between the aorta and pulmonary trunk called “malignant course” is a relatively uncommon congenital defect. In this report we present a patient with a malignant right coronary artery originating from left coronary cusp causing ischemia in apex and antero-septal wall on myocardial perfusion scan with a significant drop in Ejection Fraction during stress.

154 P

## HAND HYGIENE COMPLIANCE AUDIT

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**Introduction:** In the healthcare setting, handwashing is often cited as the primary weapon in the infection control arsenal. Noncompliance with hand hygiene, however, remains a major problem in hospitals. The purpose of handwashing in the healthcare setting is microbial reduction in an effort to decrease the risk of nosocomial infections.

**Aim:** The aim of this audit was to evaluate the compliance of hand hygiene in the Operation theatre and In Patient 1 department.

**Method:** This audit was conducted at Shaukat Khanum memorial cancer hospital Lahore, from 1<sup>st</sup> January 2017 to 30<sup>th</sup> June 2017. We analysed five moments of hand hygiene for all health care workers including Doctors, Nurses, and Health care assistants. It was a direct observation of hand hygiene by Infection Control Linkliners. Hand hygiene moments/ indications were 1: Before touching a patient 2: Before clean/ aseptic procedure 3: After body fluid exposure risk 4: After touching a patient 5: After touching patient surroundings. Data was recorded on MS Excel sheet.

**Results:** Total of three sixty seven health care workers were analysed in the period of audit. 83 were doctors, 242 nurses and 42 were health care assistants. The compliance with hand hygiene for doctors was 22.6%, nurses 65.9% and health care workers was 11.4 %.

**Conclusion:** The results in our audit were not comparable to international standards. Barriers for non compliance may be related to education, level of awareness, lack of motivation, carelessness, ignorance and time, etc. We can improve the compliance of hand hygiene in our set up by awareness, education and motivation.

155 P

**STARTING A TUMOUR BOARD MEETING AT A PUBLIC SECTOR HOSPITAL - PROBLEMS FACED AND ITS IMPACT ON PATIENT CARE. OUR EXPERIENCE.****MUHAMMAD AYZED, , AMNA MEHMOOD, MARIAM IFTIKHAR, AWAIS AMJAD MALIK, ABDUS SAMI QAZI,IMRAN KHOKHAR, SHABBIR AHMED, SHAHZAD QURESHI, MUHAMMAD FAROOQ AFZAL.****DEPARTMENT OF SURGERY, LAHORE GENERAL HOSPITAL.**

**Objective:** To discuss the problems faced while conducting MDT Meetings in a public sector hospital and how it affected patient management.

**Material and methods:** Department of Surgery at LGH has started conducting Tumour board meetings on monthly basis since Jan 2017. We share our experience of the meetings done and problems faced in conducting those meetings.

**Results:** a total of 7 MDT Meetings were conducted in which 20 patients suffering from different malignancies were discussed for a better treatment plan. Patients discussed included 07 pre operative and 13 post operative patients respectively. Specialty wise 09 patients were from colorectal, 07 patients were from Hepatobiliary ,02 patients were suffering from Endocrine tumours ,01 patient with malignancy of neuromuscular origin and 01 with CA Esophagus. The biggest issue faced by us was getting all the departments on board for conducting the meetings. We lack a dedicated oncology department at LGH and had to request involvement of personnel from INMOL for decision making. Unfortunately only 3 out of 7 meetings were attended by an oncologist. Similarly pathologist was present in 6 out of 7 meetings. Radiology and surgery had a 100 attendance at the tumour board meetings. Pathological slides were not available for any patients and discussion was done on the basis of the available report of histopathology only in all of the discussed patients. Radiological images were not available on CDs and had to be discussed on films. 2 out of 20 patients didn't even have films available.

Management decisions were unaffected in 13 patients and were changed in 07 patients.

**Conclusion :** Although we are faced with multiple problems in conducting tumour board meetings at a public sector hospital regularly but it is mandatory for all cancer patients and we believe that with persistence we can achieve a management goal where all patients presenting with cancer will be discussed and managed through a tumour board meeting.

**Key words :** MDT (multidisciplinary team)

156 P

**MULTIPLE ENDOCRINE NEOPLASIA TYPE 2A SYNDROME, A SINGLE CENTRE EXPERIENCE IN PAKISTAN.****AFIFA AFTAB<sup>1</sup>, WAQAS SHAFIQ<sup>1</sup>, UMAL AZMAT<sup>1</sup>****<sup>1</sup>DEPARTMENT OF INTERNAL MEDICINE, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

**Background:** Multiple endocrine neoplasia type 2 (MEN2) is a rare autosomal dominant disorder with an estimated prevalence of 1 per 30,000 in the general population. Available literature on MEN2/MEN-2a in the subcontinent is extremely limited. Here we report a case series of MEN-2a patients from two families, describing their clinical presentation, course of disease and follow-up at a tertiary care centre in Pakistan<sup>1</sup>.

**Case:** Based on clinical presentation, 5 patients were diagnosed with MEN-2a syndrome. Mean age at presentation was 22.4 yrs. All 5 patients had medullary thyroid cancer (MTC). 4 patients had pheochromocytoma (2/5 had bilateral pheochromocytoma) and 1 patient had a nonfunctioning adrenal incidentaloma. Only 1 out of 5 patients had manifestation of primary hyperparathyroidism (PHPT). All 5 patients underwent total thyroidectomy for MTC and 4 patients underwent adrenalectomy for pheochromocytoma. 1 patient underwent neck exploration surgery for PHPT. Post treatment to date, 4 patients had resolution of MTC, 1 patient has calcitonin levels which remain high and is under investigation. All 4 patients had resolution of pheochromocytoma post surgery. There was one patient who had all three manifestations of MEN-2a. None of the patients underwent genetic testing due to unavailability; therefore MEN-2a was diagnosed on clinical grounds. On history both families had several other family members with history of thyroid swelling and abdominal tumours. Both Families were advised screening for MEN-2a syndrome of all first degree family members.

**Discussion:** In this case series, age, clinical presentation and outcomes are similar to those reported in literature from other parts of the world. In our practice we face various challenges such as logistics, lack of availability of genetic testing, financial constraints and poor follow up. This report also begs the question, would the screening recommendations for family members of clinically diagnosed MEN-2a patients be the same as for patients who have had positive genetic testing. More studies are needed from the subcontinent so that recommendations can be made specific to our population, given the restraints mentioned above.

157 P

**SUCCESSFUL TREATMENT OF TRICHODERMA FUNGEMIA IN IMMUNOCOMROMISED HOST****FURQANA AKHTAR, FAISAL SULTAN, AUN RAZA.****DEPARTMENT OF MEDICINE, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN.**

Fungal infections in immunocompromised patients constitute a significant proportion of infections, the commonest being *Aspergillus* species, *Cryptococcal neoformans*, *Mucormycosis* and *Fusarium* species. *Trichoderma* infection is a rare fungal infection with very high mortality and limited data available on antimicrobial agents and optimal duration. Clinical manifestation may vary and ranges from pulmonary mycetoma, necrotic skin lesions, brain and liver focal lesions, endocarditis and sinusitis. Clinically important 7 species have been identified which can cause disease in humans, *Trichoderma longibrachiatum* being the commonest.

**Keywords:** *Trichoderma*, hyphomycetes

**Introduction:** *Trichoderma* are rare saprophytic filamentous septated fungi belongs to genus hyphomycetes that are abundant in soils, water supply and plants. They are the cause of disease in commercially produced mushrooms, and have been identified as causal agents of disease in immunosuppressed humans. They were initially thought to be culture contaminant but with advent of increasing immunocompromised population more and more cases have been reported.

**Case:** We present a case of a 10 year old girl with Ewing's sarcoma who while undergoing chemotherapy presented to us with fever and umbilicated skin lesions over body. She was found to have *Trichoderma* blood stream infection from central line. Cultures of sputum and urine were negative for *Trichoderma*. High-resolution computed tomography scans (both chest and abdominal) showed no sign of abscess or fungal dissemination. Echocardiography was negative for any vegetation. Biopsy of skin lesions revealed non specific Neutrophilic infiltration. She was treated with dual antifungal treatment constituting high dose amphotericin B and voriconazole resulting in fever defervescence.

**Conclusion:** *Trichoderma* should be considered in differential diagnosis if dealing with immunocompromised patient with fever not responding to conventional treatment especially in patients who have chronic indwelling catheters. As timely diagnostic work up including imaging and blood cultures may result in prompt diagnosis of a potentially life threatening infection. More research should be directed at serological testing for timely diagnosis.

158 P

## A STUDY OF DEMOGRAPHIC FEATURES OF CARCINOMA OF ESOPHAGUS IN A TERTIARY CARE HOSPITAL

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**Context:** In clinical observation, incidence of esophageal cancer seems to be increasing in Karachi, especially among younger age group. Patients usually present in advanced stage and poor performance status, hence the treatment remains palliative.

**OBJECTIVES:** To evaluate the demographic features of esophageal cancer in a single institute of Karachi.

**Materials and methods:** 326 diagnosed cases of esophageal cancer, from the year 2006 to 2012 were included. A detailed study was done using patients' pro-forma, which included age, sex, ethnicity, habits, presenting complains, basis of diagnosis and histology. Data was analysed using SPSS version 19.

**Conclusion:** Looking upon the demographic data it is observed that incidence is more in females and in the younger people, majority addicted to pan, betel nut and tobacco. Most of the patients present in late stages. Squamous cell is the most common histology. Esophageal cancer has a high fatality rate as most patients died within a year after diagnosis.

If trends of smoking and pan, betel nut and tobacco chewing keeps increasing in our society then this cancer will keep on rising in incidence and may become one of the commonest tumours.

159 P

## IS MY IRB DOING ITS JOB RIGHT, HOW TO ASSESS THIS

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**Introduction:** Institutional Review Boards (IRBs) need to assess their performance and benchmark themselves for a variety of reasons. This helps to improve their processes and gain the trust of researchers. However this ability is limited due to lack of well-established metrics with standard definitions. Present study attempts to assess the performance of IRB of Shaukat Khanum Memorial Cancer Hospital and Research Centre, (SKMCH&RC) and benchmark it against other IRBs accredited by Association for the Accreditation of Human Research Protection Programs (AAHRPP), authorized body which provides accreditation to IRBs.

**Methods:** Assessment of SKMCH&RC-IRB structure (committee composition, qualification, and workload), processes (review procedures, timeliness) and ethical review component (approval rates, ethical issues raised) was done using metrics which have their origin in Accreditation standards used to evaluate IRB performance by AAHRPP. IRB records were reviewed for a period of 30 months, from January 2015 to July 2017.

**Results:** Composition of SKMCH&RC-IRB has followed international standards with reasonable mix of scientific and non-scientific, male and female and affiliated and nonaffiliated members. All IRB members received the protocol and individual review analysis form with an open-ended assessment form for each protocol. An average number of members attending convened meetings for clinical studies were 7.5.

SKM-IRB reviewed 28 new non-exempt studies and 147 exempt studies (average 70 studies per year; 11.2 non-exempt, 58.8 exempt). For non-exempt studies, the average days from submission to first review were 32.8 days and from submission to approval were 44 days. 24 studies were approved (85.7%) with minor revisions and 4 studies (14.3%) were advised resubmission.

Over 30 months of the study, most commonly raised IRB concerns were about informed consent, benefits and risks of research, their management and compensation arrangement. The review time from submission to approval under convened IRB at SKM-IRB was shorter, approximately 44 days, compared to 45 days by other accredited IRBs while number of IRB staff was 1 compared to 4.3 at other accredited IRBs with similar workload.

**Conclusion:** This needs debate how evaluation of IRB can measure IRBs actual impact on practice of research. IRB communities must set benchmark metrics, as ultimately this can reduce tensions between IRBs and researchers.

**Acknowledgement:** Javed Hussain has helped in data extraction from IRB records.

160 P

**KIKUCHI FUJIMOTO LYMPHADENITIS-A CASE SERIES IN PAKISTAN****SHABBIR HUSSAIN A. ALI, JAWAID A. MALLICK, ABDUL HAFEEZ LAKHAN, SAAD JAMAL, SHOAB HANIF****DEPARTMENT OF RADIOTHERAPY, ZIAUDDIN UNIVERSITY HOSPITAL, KARACHI, PAKISTAN.**

**Introduction:** Kikuchi Fujimoto Disease (KFD) or histiocytic necrotizing lymphadenitis is a benign form of cervical lymphadenopathy that commonly affects young adults. It can present with unexplained fever and lymphadenopathy. It is often mistaken for more serious conditions like malignant lymphoma or tuberculosis. In the early 1970s both Kikuchi and Fujimoto first described cases of KFD in Japan. There is no effective treatment for Kikuchi's disease still steroids are used and is effective in treating the symptoms. We present a case series of three patients who presented in our clinic with this diagnosis.

**Case Series:** Three patients presented to us in a time period of 2 years and after workup and investigations were found out to be having this disease. Two of the patients were female and one was a male. The females presented with lymph nodal swelling in the axillary and cervical region and the male presented with unexplained fever and the developed cervical lymph nodes enlargement. All of these patients were diagnosed on the basis of histopathology reports. Later on treatment was started with oral steroids and anti-inflammatory drugs.

**Discussion:** Kikuchi Fujimoto disease (KFD) is a benign histiocytic necrotising lymphadenitis. KFD is rare, but most common in Asia. Kikuchi's disease most often presents with cervical lymphadenopathy which may be tender and can be accompanied by fever and upper respiratory tract symptoms. Less common symptoms include arthralgia, skin rashes, weakness and night sweats. Weight loss, diarrhea, anorexia, chills, nausea, vomiting, chest and abdominal pain have also been reported. Some patients may also have hepatosplenomegaly. Its aetiology has not yet been fully determined, however it is believed it may be of viral origin, EBV, HHV6 and 8 have been suggested. Raw fish was postulated as a cause, but the recent literature doesn't support this. An autoimmune aetiology is also likely as it has been reported in association with SLE. Differential diagnoses for Kikuchi's disease include lymphoma, tuberculous adenitis, SLE, lymphogranuloma venereum, Kawasaki disease, metastatic carcinoma, infectious mononucleosis, toxoplasmosis, Yersinia, cat scratch disease, AIDS, and Still's disease in children. Treatment is generally supportive. Nonsteroidal anti-inflammatory drugs (NSAIDs) may be used to alleviate lymph node tenderness and fever. Patients with severe and persisting symptoms have been treated with glucocorticoids or high dose glucocorticoids with intravenous immunoglobulin with apparent benefit.

161 P

**AUDIT ON FUNGAL MARKERS****AHMED BILAL AKHTAR****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

**Background:** Fungal infections are a significant cause of morbidity and mortality in patients who receive immunosuppressive therapy. The detection of  $\beta$ -D-Glucan (BDG) and Galactomannan seem to be promising non-culture-based and noninvasive tool for Invasive Fungal Infections (IFI) analyses in haemato-oncological patients rather than direct visualization or culture from deep tissues. Detection of the antigen Galactomannan is the most frequently used microbiological tool. Piperacillin is produced as a fermentation product of molds of the genus *Penicillium* which contains Galactomannan in the cell wall. It has been shown that older preparations of Piperacillin/Tazobactam contain Galactomannan and cause false-positive results in patients.

**Aims:** To assess the appropriate use of fungal markers;  $\beta$ -D-Glucan (BDG) and Galactomannan in relation to the indicative parameters and their cost effectiveness.

**Methods:** We analysed data of two months from 1<sup>st</sup> November to 31<sup>st</sup> December 2016, in relation to white blood cell count at the time of sampling, presence of fever, administration of Piperacillin/tazobactam, number of antibiotic days, date of the start of antifungals and repetition of markers with in these two months. An audit loop was done in May, June and July 2017 to assess the effectiveness of the initial audit.

**Results:** November-December 2016:

In the first audit; 23.71% (n=23), patients with negative Markers received antifungals, 6.18% (n=6), patients with only  $\beta$  D Glucan positive did not receive antifungals, 9.27% (n=9), who had both markers positive had markers repeated and 2.06% (n=2), patients with only Galactomannan positive did not receive antifungals. So, arguably, 40 (23+6+9+2) i.e. 41.2% patients had inappropriate use of antifungal markers.

May-July 2017:

In the re-audit; 22.23% (n=6), patients with negative Markers received antifungals, 3.70% (n=1), patients with only  $\beta$  D Glucan positive did not receive antifungals, 0% (n=0), who had both markers positive had markers repeated and 0% (n=0), patients with only Galactomannan positive did not receive antifungals. So, arguably, 7 (6+1+0+0) i.e. 25.92% patients had inappropriate use of antifungal markers.

**Conclusions:** In the initial audit 2.24 million rupees worth fungal marker tests were ordered whereas later 0.52 million rupees worth tests were ordered. Estimated per annum cost from initial audit will be 13.44 million rupees whereas 2.08 million rupees from the second. A decrease from 40% (5.4million/annum) to 25.92% (0.54million/annum) inappropriately investigated patients annually. So overall there was a decrease in number of tests ordered from 272 in two months to 54 in three months. In terms of cost a decrease from 13.44 million per annum to 2.08 million per annum.

162 P

## ARE WE DOING CLINICAL TRIALS IN PAKISTAN

**FARAH RASHEED****CLINICAL RESEARCH OFFICE , SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE**

**Introduction:** Recent years has witnessed a shift in industry sponsored clinical trials to emerging regions, a trend named globalization of clinical trials. Yet many large countries are not well represented in globalization. Pakistan is sixth most populous country, where potential of participating in clinical trials remains untapped. Underrepresentation of large populations is an ethical concern while preparing these countries to contribute to clinical trials offers a solution to current adverse trends in clinical trials like increasing costs, recruitment difficulties and issues related to overburdened sites, investigators, IRBs and regulatory systems.

**Objectives:** This study attempts to showcase and analyze the ongoing clinical trials activity in Pakistan.

**Methods:** No country specific database, registry, website, or other forum exist which gives information about ongoing clinical trials activity. A search of clinicaltrials.gov was carried out to get information about ongoing clinical trials.

**Results:** A search of clinicaltrials.gov with keyword Pakistan retrieves 376 studies registered in a time range from 1992 to date. Most common funder type was “all others” which represents individuals, universities and community based organizations. While second most common funder type was industry. However recent years show a decline in industry sponsored clinical trials. Least commonly found funder was federal government of Pakistan. Most commonly funding universities or organizations funded research studies where these universities or organizations were named as collaborators. Most of these studies were single centered studies. In addition to these adverse trends identified in ongoing clinical trial activity, few other aspects were noted. Drug Regulatory Authority of Pakistan, lacks basic guidance related to clinical trials on their website. Local pharmaceutical association does not list research and development in its priority or vision. Training opportunities, funding and career structures with appropriate rewards lack for research staff including physician investigators. In spite of these, contribution of Pakistan has been appreciated among top recruiters and outstanding performers in some recent trials.

**Conclusion:** The adverse trends hint that stakeholders including Government, physician investigators and pharma industry representatives need to be engaged in serious discussion, to work towards national agenda. Global clinical trials leadership is also responsible to ensure mechanisms to prevent underrepresentation of large populations.

163 P

**ROLE OF NOTCH AND NFκB SIGNALING IN FATE DETERMINATION OF HEPATIC PROGENITOR CELLS (HPCS) TO BILIARY CELLS.****BISMA RAUFF<sup>1</sup>, MEHDI RAMEZANI-MOGHADAM<sup>1</sup>, MAHMOUD KARIMI AZARDARYANY<sup>1</sup>, GEORGE WILSON<sup>1</sup>, LIANG QIAO<sup>1</sup>, JACOB GEORGE<sup>1</sup>, MARK W. DOUGLAS<sup>1,2</sup>, SAEED ESMAILI<sup>1</sup>****<sup>1</sup> STORR LIVER CENTRE, WESTMEAD INSTITUTE FOR MEDICAL RESEARCH, UNIVERSITY OF SYDNEY AT WESTMEAD HOSPITAL, WESTMEAD.****<sup>2</sup> CENTRE FOR INFECTIOUS DISEASES AND MICROBIOLOGY, MARIE BASHIR INSTITUTE FOR INFECTIOUS DISEASES AND BIOSECURITY, UNIVERSITY OF SYDNEY AT WESTMEAD HOSPITAL, WESTMEAD NSW 2145.**

**Introduction:** During chronic liver injury, a population of bipotent hepatic progenitor cells (HPCs) become activated to regenerate biliary epithelial cells (cholangiocytes). The mediators of polarization towards a cholangiocyte lineage, however, have not been established. We sought to determine the role of Notch and NFκB signaling for cholangiocyte fate determination.

**Methodology:** Bile duct ligation (BDL) was undertaken in rats to induce ductular proliferation. Relative mRNA (qPCR) and protein (Western blot analysis) expression were used to determine the activation of Notch and NFκB pathways. The expression and localization of Notch and NFκB signaling molecules was determined by immunofluorescence and immunohistochemistry.

**Results:** After BDL, we observed activation of Notch (Notch2, Jagged1, Hes1 and Hey1), and NFκB signaling in whole liver. In particular, protein expression of Jagged1 (3.5-fold, P<0.0042) and Notch2 (2-fold, P< 0.0011) were elevated in the liver of BDL rats. Western blotting indicated simultaneous activation of the NFκb pathway with increases in total Iκβα (2.5 fold, P<0.0095), phospho Iκβα: 1.5 fold, p<0.0478), P100 (3.5-fold p<0.0021), P52 (2.5-fold, p<0.056), and RelB (3 fold with p<0.005). qPCR for Notch signaling indicated a 2-fold upregulation of Notch2 (p<0.002) and a 4-fold upregulation of Jagged1 (p<0.001), while Hes1 was increased 50% (p<0.23), and Hey1 was upregulated 5-fold (p<0.015). P100 and RelB were upregulated 2 fold (p<0.02) and 3.5 fold (p<0.001), respectively. Immunostaining demonstrated increases in Notch1 and p65 in cholangiocytes of rats that undergone BDL.

**Conclusion:** Our data demonstrates a possible interaction between Notch and NFκB signaling during the proliferation of biliary epithelial cells in cholestatic liver injury. *In vivo* studies in a mouse model of cholangiocyte proliferation using the diethoxycarbonyl dihydrocollidine (DDC) diet and *in vitro* investigation of the interaction between these pathways is planned to confirm the interaction.

164 P

## PHEOCHROMOCYTOMA - A SINGLE CENTER CASE SERIES

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**Introduction:** Pheochromocytomas and extra-adrenal paragangliomas are rare tumours arising from neural crest tissue that develops into sympathetic and parasympathetic paraganglia throughout the body. The incidence of pheochromocytoma is 2 to 8 per million persons per year. In 0.1 to 1% of patients pheochromocytoma presents with hypertension and in approximately 5% of patients as an incidentally discovered adrenal mass. In this case series we illustrate the clinical presentation, treatment and survival of patients with pheochromocytoma at a tertiary care hospital in Pakistan.

**Methods:** This is a retrospective review of patients with histology proven pheochromocytoma presenting to Shaukat Khanum Memorial Cancer Hospital and Research centre from August 2015 to July 2017.

**Results:** A total of twelve patients were seen with median age of 28.9 years at the time of diagnosis. Six patients were males and six were female. Five patients presented with abdominal pain, three with malignant hypertension, three while work up for medullary thyroid carcinoma (MTC) and one was diagnosed incidentally. Mean size of tumour was 9.9cm. Based on clinical presentation, four patients were diagnosed with MEN 2a syndrome. All these four patients had MTC, two had bilateral pheochromocytoma and one had primary hyperparathyroidism. All twelve patients underwent surgical resection and have been followed by regular imaging and plasma-free fractionated metanephrines. There is no evidence of relapse in any patient till last follow up.

**Discussion:** Pheochromocytoma and extra adrenal paraganglioma are mostly sporadic. However, approximately thirty percent of patients have the disease as part of a familial disorder; in these patients, tumours are more likely to be bilateral. In our case series thirty percent (n=4) patient were diagnosed with MEN 2a, out of which two had bilateral disease.

There is no clear data regarding the survival of patients with localized or regional disease. Approximately, 6.5% to 16.5% of these patients develop a recurrence, usually 5 to 15 years after

**initial surgery therefore long term follow up is recommended.**

165 P

**AUDIT ON THE MANAGEMENT OF PATIENTS PRESENTED WITH SEPSIS****AYESHA NASEEM, WANIA IMTIAZ, MARIAM VIQAR AHMED, WAQAS SHAFIQ****DEPARTMENT OF INTERNAL MEDICINE, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

**Objective:** Sepsis is a life threatening organ dysfunction caused by a dysregulated host response to infection. Sepsis and septic shocks are major healthcare problems, affecting million of people around the world each year, and killing as many as one in four. Similar to polytrauma, acute myocardial infarction , early identification and appropriate management in the initial hours improve outcomes. The qSOFA score (quick sepsis related organ failure assessment) is a bedside prompt that may identify patients with suspected infection who are at greater risk for a poor outcome outside intensive care unit. Its criteria includes systolic blood pressure (SBP) < 90, respiratory rate (RR) > 22 and altered mental status. We used this tool to identify patients with sepsis. The aim of this audit was to evaluate the management of patients with sepsis in our centre. We used surviving sepsis campaign bundles as our standard.

**Methodology:** This audit was conducted on adults patients who visited Emergency department in month of November, 2016 and received antibiotics. Sample universe included 292 patients. Using retrospective randomised sampling technique, every third patient was included and 30 patients met the qSOFA criteria.

**Results:** We found that lactate was done in 23% and blood cultures were done in 63% of patients on time. Seventy three percents patients were administered antibiotics and were given appropriate Intravenous fluids. Nine patients remained hypotensive despite initial fluid resuscitation . One third of these patients were on palliative care and intensive care was considered inappropriate. Out of six remaining patients, Intensive care team was involved in only three patients. 80 % of patients were admitted whereas 20% were discharged on the same day. Three patients expired on same admission. In one month follow up, 33% patients had no EAR visit, 20% visited EAR and were discharged same day from EAR while remaining 46% got re admitted.

**Conclusion:** This audit showed that management of patient with sepsis in our centre is suboptimal. We proposed a management protocol which can facilitate early identification and appropriate management of patients with sepsis to improve the outcomes.

166 P

## ELECTROLYTE IMBALANCES IN MALIGNANCY ASSOCIATED WITH USE OF ANTICANCER DRUGS. A RETROSPECTIVE ANALYSIS OF TERTIARY CARE HOSPITAL OF KARACHI.

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**Context:** Cancer is one of those diseases which has high mortality rates in Pakistan. Most of the cases are diagnosed in advanced stages. Chemotherapy is one of the treatment components of cancer and electrolyte abnormalities are one of its commoner side effects, these abnormalities are frequent and complicating element of the disease, It may be due to underlying malignancy, a consequence of disease response or side effect of therapeutic agents. These side effects can be hazardous and fatal in some cases.

**Purpose/Objectives:** This review presents the electrolyte abnormalities that can occur with the use of anticancer drugs.

**Setting and Design:** Retrospective review of records of patients of the last 06 months who were mainly admitted for the management of post chemotherapy side effects.

**Materials and Methods:** In this review we have included a total of 110 patients, out of which Breast, Lung and Colorectal cancers are leading malignancies followed by the lesser number of other malignancies like Ovary, Non-Hodgkin's lymphoma, Esophagus, Leukemia, Oral cavity etc. included almost from all sub anatomic locations.

**Results:** The patients who received Platinum-containing anticancer drugs experienced mainly hypokalemia, hyponatremia and hypomagnesemia, the ones who received chemotherapy with Alkylating agents have mainly developed hyponatremia, and those who received Vinca alkaloid containing regimes demonstrated hyponatremia. Patient who received Epidermal growth factor receptor monoclonal antibodies mainly experienced hypomagnesemia, hypokalemia and hypocalcemia. Other, monoclonal antibodies, such as Cetuximab, mainly caused hyponatremia. All those patients who developed the drug related Tumour Lysis Syndrome showed the incidence of hyperphosphatemia, hyperkalemia and hypocalcemia. The incidence of hyponatremia and hypokalemia was also observed among those patients who received the chemotherapy with relatively newer agents like Novolumab.

**Conclusion:** Some other previous international publications also show great similarity with our findings.

**Keywords:** Electrolytes, Platin, Vinca Alkaloids, Alkylating agents

167 P

**RHODOCOCCUS BRAIN ABSCESSSES IN PATIENT WITH HIV/AIDS-A CASE REPORT****NADIA MAJEED, FAISAL SULTAN AND AMINA NAWAZ****DEPARTMENT OF INTERNAL MEDICINE, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE LAHORE**

Rhodococcus is a gram positive coccobacillus present in environment, mainly a plant pathogen, but causing serious infections in immunocompromised individuals, resulting in wide variety of clinical presentations including intracranial extension. We report a case of brain abscesses caused by Rhodococcus species in patient with HIV/AIDS.

**Keywords:** Rhodococcus species, Brain abscesses and HIV/AIDS

**Case:** 42 year old gentleman, with an underlying G6PD deficiency, presented with a six month history of ill health, weight loss, dry cough, shortness of breath and fever, was diagnosed with pneumonia caused by pneumocystis jiroveci and discovered to have HIV with CD4 count of 36 and an HIV viral load of  $1.98 \times 10^5$  copies/ml. He was started on antiretroviral treatment. During treatment course he developed mediastinal, supraclavicular lymphadenopathy and multiple nodular lesions in lungs biopsy was done from each of this site which revealed growth of enterococcus, Kocuria Kristenae, and necrotizing granulomatous inflammation respectively, He simultaneously developed left eye acute choroiditis started on empiric anti tuberculous treatment, that later was modified due to drug induced hepatitis, MRI brain revealed multiple ring enhancing lesions in frontal lobes, supra and infratentorial regions, with no meningeal enhancement (Figure 1), FNA and aspiration was consistent with brain abscess and cultures grew Rhodococcus species, mycobacterial and fungal cultures remained negative. Based upon the sensitivity results he was treated with intravenous Meropenem and oral Levofloxacin for 12 weeks with regression in size of brain abscesses in frontal lobe while complete response and clearance from the mid brain at 3 months (Figure 2). His CD4 counts improved to 286 and HIV RNA was below the detection limit.

He later developed disseminated Kaposi sarcoma and died with in 3 months of the above diagnosis.

**Conclusion:** Our patient had HIV/AIDS and co-Infections with disseminated Kaposi sarcoma, he showed a good radiological response and resolution of clinical symptoms with 12 weeks course of antibiotics for rhodococcus brain abscesses. High index of suspicion is required to diagnose rhodococcus infection in patient with HIV/AIDS as it is easily confused with other gram positive organisms mainly diphtheroids. The early diagnosis and treatment is the key to successful treatment otherwise the disease carries a high mortality rate.

168 P

## SAFETY OF PERCUATANEOUS TRANSHEPATIC BILIARY STENTING IN PATIENTS WITH OBSTRUCTIVE JAUNDICE

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**Objective:** To determine the safety of percutaneous transhepatic biliary stenting in patients with obstructive jaundice.

**Study design:** This was a case series.

**Place and duration:** The study was conducted in Department of Radiology, Aga Khan University Hospital Karachi, Pakistan. Study was completed from 19/02/2012 to 20/04/2012 for a total duration of 14 months.

**Subjects & methods:** 102 patients of all ages with obstructive jaundice due to any cause referred for percutaneous transhepatic biliary stenting were included in the study. Follow up was taken at a 2, 4 and 6 week interval.

**Result:** A total of 102 patients were included in the study out of which 59 (58%) were male and 43 (42%) were female. Patients of all ages were included with an age range of 21-89 years. Multiple co morbidities were taken into consideration. Severity of disease was divided into benign and malignant. A total of 30 patients experienced complications making an overall complication rate of 29.4%. Complications were then divided into minor and major. Out of these 30 patients, 20 experienced minor and 12 experienced major complications. Analysis of minor complications showed pain as the most frequent minor complication with a total of 15 patients (14.7%) followed by biliary leakage, fever and cholangitis. (Figure.21) Analysis of major complications showed outcome of death in 10 (10%) patients followed by biliary peritonitis and septicemia. (Figure.22)

**Conclusion:** These results demonstrate that PTBS achieved satisfactory palliation with a low complication rate in patients with obstructive jaundice secondary to advanced malignant biliary obstruction.

**Keywords:** Percutaneous transhepatic cholangiogram, percutaneous transhepatic biliary drainage, percutaneous transhepatic biliary stenting, obstructive jaundice.

169 P

**AUDIT OF CT KUB: AN EFFORT TO MINIMIZE UNNECESSARY RADIATION EXPOSURE.****MUHAMMAD DANISH SARFRAZ<sup>1</sup>\*, MARIA RAUF<sup>1</sup>, RASHED NAZIR<sup>1</sup>, ATIF IQBAL RANA<sup>1</sup>.****SHIFA INTERNATIONAL HOSPITALS, LTD, ISLAMABAD.****Keywords:** KUB, renal colic, radiation dose.

**Background:** Computed tomography of the kidneys, ureters and bladder (CT KUB) is performed chiefly in younger patients hence, radiation dose should be minimized as much as possible without compromising diagnostic adequacy<sup>2</sup>. Radiation dose can be minimized without altering the quality of scan by reducing scan field. Currently our departmental protocol is to scan from the diaphragm to the symphysis pubis. As diaphragm is mobile structure, the scan field varies with the inspiratory activity. Recent audit by Maguire et al.<sup>3</sup> investigating radiation dose and scan field demonstrated that in 100% of the patients, T10 was the most inferior level that can image full kidneys.

**Objective:** The aim of this audit is to compare our current department protocol to that suggested by Maguire et al.<sup>3</sup> and RCR.

**Audit Standard:**

1. 100% of scans should commenced at T10<sup>3</sup>
2. 75% of studies should have a DLP less than 500 mGycm<sup>2</sup> (UK national diagnostic reference level)<sup>4</sup>

**Method:** We retrospectively reviewed 100 consecutive CT KUB scans (Jan-Mar 2017)  
Data was collected as follows:

1. Vertebral level at which kidneys fully included.
2. Vertebral level at which scan commenced.
3. Patient dose values as CTDI/DLP.

The scan start height was defined as the most superior fully imaged vertebra. The superior border of the kidneys was defined as the highest vertebra overlapped by the kidneys.

**Inclusion Criteria:** 1. Adults over 18 years of age only; 2. Diagnosed cases of renal colic on clinical judgement or radiological investigation

**Results:** The mean age at the time of scanning was 43 years (range 18.1-84.5 years), with 36 females and 64 males. Highest level at which kidney appears was T10 while lowest was L2. Highest level at which scan was commenced was T5 while lowest was T11. Only 5% of the scans has DLP within the required limit, rest of the scans exceeded the required limit.

**Conclusion:** Currently we are not meeting the RCR standard for KUB study. Most of the scans are covering wide area above the kidneys hence increasing patient dose.

170 P

## ISOLATED MYELOID SARCOMA-A CASE REPORT WITH LITERATURE REVIEW

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**Background:** Myeloid sarcoma (MS) also called *Chloroma* is an extramedullary aggressive tumour of immature granulocytic cells. It is rare disease entity most often associated with acute myeloid leukemia and less frequently with chronic myeloid leukemia, myelodysplastic syndromes and rarely presents as an isolated form. It is believed to be a variant of acute myelogenous leukemia AML. Clinical presentation of myeloid sarcoma is also very diverse, reflecting variation in location and size of MS lesion. So considering rarity of disease most of the study data is based on case reports and small retrospective case series that's why the clinical knowledge regarding its presentation and treatment is very limited, making its diagnosis a clinical challenge.

This case report may contribute towards better understanding of the disease, however further prospective studies are required to elucidate the many remaining questions regarding the natural history, prognosis and optimal treatment strategies for this disease. To the best of our knowledge no such case report has ever been reported from Pakistan.

**Case report:** We report an unusual case of isolated myeloid sarcoma of 34 years old gentleman in which mediastinal mass with pericardial and pleural effusion was the initial presentation. CT-guided biopsy of anterior mediastinal mass was obtained showing atypical cell infiltrate positive for LCA, myeloperoxidase (MPO) with a subset of cells positive for CD68, features favoring Granulocytic Cell Sarcoma though his bone marrow biopsy of iliac crest showed normal cellular lineages, iron findings, morphology and cytogenetics showing no involvement of bone marrow with the underlying sarcoma. After the establishment of diagnosis patient was planned for 7+3 induction chemotherapy with idarubicin and cytarabine followed by two cycles of consolidation with intermediate-dose cytarabine. On follow-up visits he was evaluated for disease response to chemotherapy which showed significant improvement-a good response to therapy.

**Conclusion:** Several studies have shown that most of the cases of myeloid sarcomas were initially misdiagnosed as aggressive lymphomas. In MS including the isolated form AML-like intensive chemotherapy is associated with prolonged overall survival followed by bone marrow transplantation. However prospective controlled trials are required for further refine management decisions.

**Key words:** Myeloid Sarcoma, Isolated myeloid sarcoma, pericardial effusion, cardiac tamponade, pleural effusion.

171 P

**DIAGNOSTIC ULTRASOUND IN CHILDREN WITH BLUNT ABDOMINAL TRAUMA****SEHRISH ALI****RADIOLOGY DEPARTMENT, AL-RAZI HEALTHCARE LAHORE, PAKISTAN.**

**Objective:** The aim of this study was to evaluate the diagnostic value of Ultrasound (US) in patients with blunt abdominal trauma.

**Method:** Patients who had US for blunt abdominal trauma were prospectively evaluated from 1 March 2016 to 31 April 2017. A total of 57 patients were included in this study. US results in each patient were classified as true positive (TP), false positive (FP), false negative (FN) or true negative (TN) by comparing with findings at either diagnostic peritoneal lavage or surgery. Sensitivity, specificity, positive and negative predictive values (NPV) and diagnostic accuracy of US in detecting free fluid and in detecting the visceral parenchymal injury were calculated using two by two tables.

**Results:** By scanning to detect free fluid, TPs were 46, FPs three, FNs two and TNs six. Sensitivity, specificity, positive and NPV and the diagnostic accuracy were 96%, 67%, 94%, 75% and 91% respectively. By scanning to detect the parenchymal injury, TPs were 24, FPs 15, FNs 10 and TNs 8. Sensitivity, specificity, positive and NPV and diagnostic accuracy were 71%, 35%, 62%, 44% and 56% respectively.

**Conclusion:** US has a high diagnostic value in the screening of patients with blunt abdominal trauma. Scanning for the presence of free fluid yields better results than scanning for the visceral parenchymal injury.

**172 P****NEUTROPENIC ENTEROCOLITIS; AN ULTRASOUND BASED SWIFT DIAGNOSIS IN THE ERA OF ADVANCED IMAGING MODALITIES.****SALMAN ATIQ SIDDIQUI AND IMRAN KHALID NIAZI****DEPARTMENT OF RADIOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN****Abstract:**

In this day and age of advanced radiological imaging modalities, the paramount importance of ultrasound has been veiled to some extent. Yet, sonography based swift and early diagnosis is often of a great help to the clinicians. Neutropenic colitis is one of the noteworthy examples, where prompt diagnosis is crucial. A common scenario is the patient receiving chemotherapy for lymphoproliferative disorders, and in immunosuppressed patients with organ transplants. This clinical entity rapidly deteriorates, eventually leading to death, sometimes despite meticulous supportive treatment. It is, therefore, imperative to diagnose neutropenic colitis in early phase for effective treatment. We present a case of 8 years old boy with abdominal pain and neutropenia in which ultrasound provided a expeditious and noninvasive diagnosis of neutropenic colitis who has been treated for leukemia. The child deteriorated dismally, and despite prompt supportive management, the child expired prior any surgical intervention.

**Keywords:** Neutropenia, Bowel wall thickness, Ultrasonography.

173 P

**RADIOLOGICAL ELUCIDATION OF BRONCHIOLITIS OBLITERANS; A CLINICAL DILEMMA.****SALMAN ATIQ SIDDIQUI, AHMED ZIA-UDDIN, IMRAN KHALID NIAZI****DEPARTMENT OF RADIOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

**Abstract:** Bronchiolitis obliterans is a chronic obstructive air way disease characterized by bronchoconstriction. It occurs most commonly following an acute severe lower respiratory tract infection with adenovirus, influenza and rarely mycoplasma as noteworthy causative agents. Bronchiolitis obliterans can also occur following Stevens–Johnson syndrome, in the patients with transplant including allogenic bone marrow transplantation (graft-versus-host-disease) and heart–lung or lung transplantation (organ rejection). Clinically, patients with bronchiolitis obliterans present with shortness of breath of varying severity. Although tissue diagnosis is the gold standard, CT scan often lends support in diagnosis.

We present a case of bronchiolitis obliterans in a 23 years old female with a known history of relapsed chronic myeloid leukemia who underwent bone marrow transplant a year ago. She presented with an insidious shortness of breath which worsened over the course of time. Her initial CT chest demonstrates features of bronchiolitis obliterans. Further investigations demonstrated co-infection with cytomegalovirus. Attempts at medical treatment made no difference which subsequently led to mechanical ventilator support. Unfortunately, she could not recover from severe lung disease and expired on 21<sup>st</sup> day of hospital admission.

**Keywords:** Bronchiolitis obliterans, transplant, mechanical ventilation.

174 P

## UMBILICAL VEIN THROMBOSIS: A RARE POSSIBLE PARANEOPLASTIC PHENOMENON OF RCC

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**Keywords:** Paraneoplastic, umbilical vein, thrombosis.

**Introduction:** Renal cell carcinoma is a unique and challenging tumour because of the frequent occurrence of paraneoplastic syndromes<sup>1</sup> Paraneoplastic manifestations are present in up to 20% of patients with renal cell carcinoma (RCC).. Around 25% of RCC patients will develop a paraneoplastic syndrome, major ones includes hypercalcaemia (20%), hypertension (20%). polycythaemia: from erythropoietin secretion (~5%), Stauffer syndrome: hepatic dysfunction not related to metastases, feminization and limbic encephalitis.<sup>2</sup> Clinical syndromes termed paraneoplastic are very important to recognize as they may be the first presenting sign of the tumour<sup>3</sup>. Most paraneoplastic syndromes associated with RCC remit after resection of the primary RCC or treatment of metastatic sites<sup>4</sup>

**Case presentation:** We describe a case of a 56 Year old female who presented with abdominal pain for 2 weeks not relieved by medications. Baseline CT showed an avidly enhancing soft tissue mass along the upper pole of left kidney. No tumour thrombus was seen. Mass was biopsied and diagnosed as Renal cell carcinoma on histopathology. Patient's abdominal pain did not settle and re-evaluation scan was performed after two weeks which demonstrated interval development of a hypodense lobulated area tracking along the falciform ligament which was suggestive of recanalization and thrombosis of umbilical vein.

**Conclusion:** Recanalization of umbilical vein had been reported in literature chiefly in patient with portal hypertension however its association with RCC in an otherwise normal liver had not been reported. Our case report will be the first in literature to document recanalization and thrombosis of umbilical vein as paraneoplastic phenomenon in RCC patient.

175 P

**ACCURACY OF CLASSIFYING LUNG CARCINOMA BIOPSIES WITH COMMONLY USED LUNG CARCINOMA MARKERS ON LIMITED BIOPSY MATERIAL****SALAHUDDIN H, BABAR K, TANVIR I, YAIN B, TARIQ M, RIAZ S****FATIMA MEMORIAL HOSPITAL LAHORE, PAKISTAN**

**Background:** Tru cut biopsy (TCB) plays a critical role in the diagnosis and staging of lung primary and metastatic lung carcinoma. Accurate sub classification of adenocarcinoma (ADC) and/or squamous cell carcinoma (SCC) is crucial for the targeted therapy. However, the distinction between ADC and SCC may be difficult in small TCB specimens. Here, we have retrospectively evaluated the utility of TTF-1, Napsin A, CK7, P63, p40 and CD56 immunohistochemical (IHC) markers in distinguishing and sub classification of ADC, SCC and small cell carcinoma. Several studies have used tissue microarrays derived from resection specimens to evaluate the accuracy of IHC staining for classifying lung carcinoma, but only few have used actual biopsies of lung carcinomas. The question of how often biopsy IHC in such tumours leads to the correct classification has received little attention.

**Methods:** A total of 53 TCB were identified by a computer search over a two-year period. The immunostaining patterns of TTF-1, Napsin A, CK7, P63, p40 and cd56 were correlated with the histological diagnosis of the tumour. Measures of validity i.e sensitivity and specificity were calculated.

**Results:** Among total 53 cases of lung carcinoma, 32(60.3%) cases were of ADC, 13(24.5%) cases were of SCC, 5 (9.4%) cases were of Small cell carcinoma, 4(7.5%) cases were of poorly differentiated carcinoma. In 32 cases of ACC, TTF1 IHC stain showed a sensitivity and specificity of 78.9% and 50%, while, CK7 and Napsin A showed highest sensitivity of 100%. In 13 cases of SCC, P63 IHC stain showed sensitivity and specificity of 78.57% and 50%, while p40 showed highest sensitivity of 100%. In 5 cases of small cell carcinoma CD56 IHC stain showed sensitivity of 100%.

**Conclusion:** Variable sensitivity and specificity of IHC markers was seen our study for subclassifying lung carcinomas. Morphological findings can aid in formulation of an algorithm for sub classification of lung carcinoma by using combination of different markers.

176 P

## DIAGNOSTIC CORRELATION OF HISTOPATHOLOGICAL AND RADIOLOGICAL FINDINGS IN HEPATIC LESIONS KEEPING HISTOPATHOLOGY AS GOLD STANDARD

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**Objective:** To determine the concordance in histopathological and radiological findings while diagnosing various hepatic lesions by keeping histopathology as a gold standard.

**Study design:** Cross-sectional.

**Place and duration of study:** Aznostics Diagnostics Centre, Ittefaq Diagnostic Centre and FMH Lahore, Pakistan, from January 1, 2015 – June 1, 2017

**Method:** A total of 50 patients (29 males and 21 females) of liver lesions diagnosed on CT scan and Histopathological findings were included.

**Results:** By comparing CT scan findings with the histopathological findings the sensitivity was 93.75%, specificity was 85.33%, positive predictive value was 90.90% and negative predictive value was 88.23% in differentiating metastatic liver lesions from other types of liver lesions.

**Conclusion:** CT scan is a useful tool in diagnosing liver lesions as the results shows that CT scan shows good sensitivity, specificity, positive predictive value, negative predictive value in differentiating metastatic tumours of liver from other liver lesions.

**Keywords:** hepatic lesion, histopathology, CT scan, radiology

177 P

## RECURRENT TRACHEAL CHONDROSARCOMA: CASE REPORT OF A RARE ENTITY PRESENTED AS COLD THYROID NODULE.

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**Keywords:** Tracheal chondrosarcoma, recurrent, cold nodule.

**Introduction:** Tracheal tumours account for less than 1% of all the malignancies<sup>1</sup>. Squamous cell carcinoma (SCC) accounts for 80% of all the primary tumours of the trachea followed by adenoid cystic carcinoma (ACC) accounting for 16.3%.<sup>2</sup> Tracheal chondrosarcoma is one of the extremely rare conditions accounting for less than 20 cases described in the literature so far. Our report describes a rare case of recurrent tracheal chondrosarcoma presenting as a nodule mass within the thyroid gland.

**Case presentation:** A 50 year old female presented with progressively increased swelling on left side of the neck. Baseline ultrasound demonstrated a heterogeneous 3 cm nodule in the left thyroid lobe. Thyroid scan was performed which showed cold nodule involving superior pole of left thyroid lobe. MRI showed a T1 low, T2 and STIR high lobulated mass in the left thyroid lobe. No restriction was seen on DWI sequence. Hence left lobectomy was performed, right thyroid lobe and isthmus were left intact. FNA smears and cellblock of the left thyroid bed nodule showed abundant myxoid material, scattered groups of atypical cells showing pleomorphism, overlapping, vesicular to hyper chromatic, spindle to oval shaped nucleus suggesting chondromatous neoplasm. High blood sugar levels were also noted which is known Para neoplastic phenomenon of chondrosarcoma. Oral hypoglycemic agents were started.<sup>3</sup> Two years later, MRI showed a similar appearing soft tissue mass in post-surgical bed, Completion thyroidectomy was planned. Intraoperative findings were normal looking right thyroid lobe and isthmus with a left thyroid bed nodule which was closely adherent to the trachea. No dissecting plain was found between the tumour and the trachea. Nodule was shaved off from trachea. Histopathological confirmed recurrent chondromatous neoplasm. Tumour was found within 1 mm of nearest resection margin thereby rendering less chance of recurrence. Patient was kept on radiological and clinical surveillance.

Follow up MRI 6 months after the surgery redemonstrates a T1 low, T2 and STIR high lobulated lesion in left thyroid bed abutting the strap muscles suggesting recurrent tracheal chondrosarcoma. Tracheal resection of the involved segment was performed with end-to-end anastomosis.

**Conclusion:** Our case report describes the imaging and histopathological features of tracheal chondrosarcoma and emphasizes on close follow-up in these patients owing to its recurrent potential after resection.<sup>4</sup> Complete surgical resection with negative margins is the treatment of choice for tracheal chondrosarcoma.

178 P

## SYNCHRONOUS COLLECTING DUCT AND CLEAR CELL CARCINOMA OF THE KIDNEY- A CASE REPORT.

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**Background:** Collision /synchronous tumours refer to a phenomenon whereby two unrelated tumour types occur within the same organ. These tumours in the kidney are exceedingly rare with limited literature available. Up until now about eleven cases of collision tumours of the kidney have been reported in the literature.

**Case presentation:** We present a case of a 64-years-old male presenting with abdominal pain. The FDG PET revealed an enlarged left para-aortic lymphnode and bulky left adrenal gland. Biopsy of para-aortic lymphnode revealed a metastatic carcinoma with likely primary renal with high suspicion for collecting duct carcinoma.

He underwent left radical nephrectomy.. On histopathology two separate lesions were found in the lower pole measuring 1.1 x 0.8 x 1cm and 3.4x2.5x2cm. Immunohistochemical studies carried out on the larger lesion revealed positivity for CK AE1/AE3, Cam 5.2, EMA and focal patchy positivity for CD10 and vimentin and it was reported as Collecting Duct carcinoma, furhman grade 3.

Histology of the smaller lesion revealed a positivity of CKAE1/AE3, Cam 5.2, EMA, CD10 and vimentin and was reported as Clear cell carcinoma, Furhman grade 2.

CT scan post surgery revealed lung metastasis along with para aortic lymphadenopathy. As the biopsy of the paraaortic lymphnodes was consistent with collecting duct ca , it was thought that this has lead to lung metastasis. He received platinum and gemcitabine based therapy, however scans revealed progression. He then received two courses of docetaxel , the disease continued to progress and his condition gradually deteriorated. Patient was then kept on best supportive care.

**Conclusion:** In conclusion we present a case of a 64 year old man with synchronous tumour of the kidney having CDC and clear cell carcinoma, with CDC in the metastatic nodes. Based on historical date the prognosis of this patient would be dictated by the CDC component.?

179 P

## CASE SERIES OF GRAY ZONE LYMPHOMA IN PEDIATRIC PATIENTS TREATED AT A SINGLE CENTRE

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**Objective:** Our objective was to review clinical presentation, treatment protocol and outcome of gray zone lymphoma during last 5 years at our centre.

**Patients and Methods:** A retrospective chart review of children below 18 years of age was done from 2011 to 2016. A proforma was devised for this purpose and the findings of cases detected during the specified period were noted over it.

**Results:** We treated 4 cases, all with a diagnosis of gray zone lymphoma of ages 13, 13, 15 and 7 years at presentation and all were males. Two patients had stage II and the other two had stage III disease. None had a mediastinal mass. All patients were treated according to UKCCSG NHL guidelines. Tumour lysis syndrome was not observed in any child. All tolerated chemotherapy very well and achieved complete remission. No patient died of the disease or any complication and all are well on their latest follow ups.

**Conclusion:** To conclude, gray zone lymphoma should be treated with more aggressive treatment regimens due to its poorer outcome and drug resistance reported in previous studies

180 P

## CONCORDANCE AMONG SPECT-CT, PEROPERATIVE GAMMA-PROBE SENTINEL LOCALIZATION AND PATENT BLUE DYE TECHNIQUE FOR MAPPING HIDDEN SENTINEL NODES IN EARLY STAGE BREAST CANCER PATIENTS

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**Objective:** To compare the detection efficacy of SPECT-CT using Tc-99m HSA versus PBD for sentinel Lymph Node(SLN) detection in breast cancer patients with undetectable nodes on Planar Scintigraphy(PS) and to determine which modality is better for SLN detection.

**Material and Methods:** Retrospective study of 1024 early stage breast cancer patients referred for SLN mapping between April 2014 and March 2016. Of these, those with non-visualization of SLN/equivocal PS findings undergoing SPECT-CT(n=134) followed by peroperative detection of counts with gamma-probe and/or PBD technique were included. Visually blue stained radioactive and nonradioactive nodes were surgically removed and evaluated histopathologically. The detection rate by individual method was calculated. Cohen's Kappa statistics were applied to calculate overall agreement between radioisotope and PBD techniques for diagnostic value assessment.

**Results:** 134 patients underwent SPECT-CT and PBD injection for obscure SLN on PS. Median age: 47 years. 49 (36.6%) had T1, 85(63.4%) T2. 131(97.8%) had positive SLN detected by radioisotope and/or PBD technique. 105/134 had SLN localization by SPECT-CT lymphoscintigraphy, later peroperative gamma-probe detected hot nodes in additional 20 cases. In six out of nine with no detectable radioactivity in the axilla, SLNs were identified only by PBD staining while none was identified only by isotopic detection; illustrating failure rates of 2.2%(3/134) and 6.7%(9/134) respectively. Therefore, the contribution of PBD to sentinel nodes identification was relevant for only 4.5%(6/134) patients.

Three remained negative on both radioisotope and PBD localization. On subsequent axillary nodal dissection, all had metastatic nodal disease. All SLNs detected on SPECT-CT showed blue dye uptake. In 112 cases, more than one SLN was surgically removed. Frozen section analysis in total 536 excised nodes showed metastatic disease in 31%. Overall moderate agreement (k-value=0.54) was calculated. Statistically significant difference(p=0.01) was noted in SLN mapping between radioisotope and PBD technique where lymphoscintigraphic findings were negative.

**Conclusion:** The role of PBD to reduce the false-negative rate of SLN mapping is limited to the occasional cases where no radioactivity is detectable in the axilla by SPECT-CT or gamma-probe. When a radioisotope mapping has localized SLN, the use of PBD should be limited. Moreover, SPECT-CT had added value only for pre-operative surgical planning in case of unusual node localization.

181 P

**CASE SERIES: RADIATION NECROSIS****HAFSA BABER**

**Background:** Delayed cerebral radiation necrosis (CRN) is a well-known adverse effect following radiotherapy to brain and neck tumours and has been studied since 1930's. . There is little published information regarding CRN and how to differentiate it from tumour recurrence. Here we present a case series of 4 patients with variable primary disease who were diagnosed with radiation necrosis in later stages.

**Methods:** Retrospective review of patients treated with radiotherapy for brain tumours and metastases at our institution.

**Case description:** A 42 years old female with left frontal glial tumour was being treated on lines of tumour recurrence and later on was diagnosed with radiation necrosis. Then another 60 years old female with renal cell carcinoma had brain metastases which recently came to light as radiation necrosis after MRI perfusion study. 40 years old male with DLBCL had brain involvement for which radiation was induced leading to severe symptoms and further therapy only to be recently diagnosed as radiation necrosis than disease recurrence. Lastly a 54 years old female with known breast primary and brain metastases underwent cyber knife surgery and was treated for increased disease bulk in the brain which also turned out to be necrosis on recent MRI perfusion study.

**Conclusion:** This case series highlights the importance of keeping Radiation necrosis in the differential diagnosis of any patient with an intracranial mass or with history of radiation for an extra-cranial malignancy as misinterpretation may lead to inappropriate management and prognostication.

**Key words:** Brain, necrosis, radiation

182 P

**RELAPSED HODGKIN LYMPHOMA WITH CNS INVOLVEMENT-A RARE PRESENTATION****DR.SHANILA AHMED, DR. MUHAMMAD RAZA, DR. GHULAM HAIDER****DEPARTMENT OF MEDICAL ONCOLOGY, AGA KHAN UNIVERSITY HOSPITAL, KARACHI, PAKISTAN**

**Background:** Hodgkin's lymphoma (HL) rarely involves central nervous system (CNS) and accounts for only 0.5% of HL cases, whereas CNS involvement can be seen in Non-Hodgkin lymphoma (NHL) patients up to 5-30%. CNS disease most often appears as relapse. We describe an additional case of 35 years old gentleman who had Hodgkin lymphoma and after 5 years presented to us with history of road traffic accident. His CT head revealed the incidental finding of space occupying lesion (SOL), biopsy of which showed features consistent with HL. Although CNS involvement is extremely rare but prompt diagnosis with early and appropriate therapy can cause complete remission of disease. It has been seen that patients in which disease is confined to brain has better prognosis. Treatment with radiation and chemotherapy is recommended. No such case has ever been reported in Pakistan. Less work has been done in our population in this regard as the disease is very rare. This case was unique in its presentation that prompts us to report the case.

**Case report:** 35 years old gentleman, diagnosed case of Hodgkin lymphoma which was confirmed by cervical lymph node biopsy. He received multiple lines of chemotherapy after which there was complete remission of disease. He had road traffic accident after five years, because he became unconscious imaging was done and he was found to have right parietal space occupying lesion. He was planned for elective surgery and underwent resection of that space occupying lesion of brain. The specimen was sent for histopathology. Immunohistochemical stains were performed that showed atypical cell infiltrate positive for CD30, CD15 and PAX5 but negative for LCA, CD20 and CD3, features were consistent with Classical Hodgkin's lymphoma.

**Conclusion:** Relapsed hodgkin lymphoma with CNS involvement is uncommon therefore space occupying lesion (SOL) should always be investigated and biopsy of such lesions is essential to establish the diagnosis. The holocraneal radiotherapy in combination with chemotherapy is standard treatment. With early appropriate therapy complete remission can be achieved. However large scale studies are still required in order to understand the presentation, survival and treatment options for patients with CNS-HL.

**Key words:**Space occupying lesion,Relapse Hodgkin lymphoma, Central Nervous System, CNS lymphoma

183 P

## PREVALENCE AND CAUSES OF ANEMIA IN LYMPHOMA PATIENTS: A SINGLE CENTRE EXPERIENCE

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**Background:** Anaemia is an adverse prognostic factor in lymphoproliferative disorders; however this feature is poorly recognized and under treated. Purpose of our study is to find out prevalence of anaemia and its causes in newly diagnosed treatment naïve lymphoma patients.

**Material and methods:** Four hundred and eight adult newly diagnosed lymphoma patients presenting from January 2016 till January 2017 were identified. Data was collected retrospectively and analysed using SPSS version 20. Descriptive statistics were done by using summary measures for categorical variables as well as continuous variables.

**Results:** Total 408 patients were analysed. 272 were males and 136 were females. Mean age of patients with  $\pm$  SD was  $33.04 \pm 11.50$  years. Hodgkin lymphoma and diffuse large B cell lymphoma were the diagnosis in 201 and 134 patients respectively. 73 patients belonged to other types particularly low grade lymphomas. Anaemia was present in 184 (45%) patients among which 103 (55.97%) were males and 81(44.02%) were females. 124 (30.4%) patients had moderate anaemia (Hb 8- 10.9 gm/dl). Anaemia of chronic disease was the most common cause of anaemia and was found in 62 (15.2%) of patients followed by anaemia secondary to marrow involvement in 48(11.8%) of patients. Iron deficiency anaemia was seen in 14 (3.41%), B 12 deficiency in 3 (0.71%) and haemolytic anaemia in 1 (0.2%) of patients.

**Conclusion:** Anaemia is identified as more common feature in our newly diagnosed lymphoma patients and its prevalence is almost equivalent in both males and females lymphoma patients. Work up for anaemia prior to initiation of chemotherapy should be done in every lymphoma patient it can help in the management of anaemia by identifying its actual cause and treatment accordingly.

184 P

## INCIDENCE OF HASHIMOTO'S THYROIDITIS AND HIGH SERUM TSH AS PREDICTOR OF MALIGNANCY IN LOCAL GOITROUS PATIENTS

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**Objective:** Papillary thyroid carcinoma (PTC) is the most common malignant neoplasm of the thyroid gland. An association between PTC and Hashimoto's thyroiditis (HT) has been reported. HT patients with higher levels of serum TSH had a higher incidence of PTC. Serum TSH has been reported to act as a promoter of malignancy in HT. We determined incidence of HT and its association with serum TSH in local adult goitrous patients.

**Patients and Methods:** Among adult euthyroid goitre patients those with normal (0.3-4.0 mIU/L) or slightly higher serum TSH ( $\leq 10.0$  mIU/L) were tested for serum TPO-Ab titer. Serum FT<sub>4</sub> and TSH was determined by RIA and TPO-Ab titer by ELISA method using commercial kits. Patients with serum TPO-Ab titer  $>20.0$  IU/ml were considered to have HT.

**Results:** A total of 255 patients (female 207, male 48) were selected. Their average age was  $28.3 \pm 10.5$  year (range: 18-65 year). Visible goitre was slightly more common (n=159, 62.4%) than palpable swelling. HT was detected in 58(22.7%) patients mostly female (n=56). No significant difference in average age of HT and non-HT patient was detected ( $29.9 \pm 11.2$  vs  $27.9 \pm 10.3$  year;  $p=0.218$ ). Similarly incidence of HT in visible and palpable goitre was comparable (19.5% vs 28.1%;  $p=0.276$ ). However, in HT patients average serum TSH level was significantly higher than those with simple goitre ( $4.0 \pm 2.98$  vs  $2.18 \pm 2.09$ ;  $p<0.0001$ ).

**Conclusion:** More than 20% of euthyroid goitre patients, mostly female presenting with high TSH had Hashimoto's thyroiditis independent of goitre size and patient age. This high risk group should be evaluated for thyroid malignancy.

185 P

## UTILITY OF THYROID SCINTIGRAPHY IN PLANNING COMPLETION THYROIDECTOMIES

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**Purpose:** It is not uncommon that thyroid cancer patients undergo hemithyroidectomy for various reasons (e.g. Bethesda IV equivocal lesions, incomplete thyroidectomy). After final diagnosis, many of these patients require completion thyroidectomies which have a higher risk of complications. Ultrasound and MRI are imaging of choice for evaluating an operated neck. However, on occasions post-operative changes render need for functional assessment of residual thyroid with Tc<sup>99m</sup> pertechnetate thyroid scan.

**Material and Methods:** Hospital information system was used to identify thyroid cancer patient who underwent thyroid scintigraphy with Tc<sup>99m</sup>Pertechnetate between October 2014 and April 2017 as part of pre-completion thyroidectomy work up.

**Results:** A total of 16 patients were identified who underwent thyroid scintigraphy as pre completion thyroidectomy work up. Cohort included 12 females and 4 males with age range of 19 to 63 years. All patients had histopathological diagnosis of differentiated thyroid cancer. MRI showed unilateral equivocal/indeterminate findings in 12 (75%) patients while 4 (25%) had bilateral equivocal findings. Thyroid scintigraphy identified 7 (43.8%) patients with no residual functioning thyroid tissue in operated thyroid bed. These patients did not require re-exploration in pre-operated thyroid bed. Nine (56.2%) patients had significant thyroid remnant in pre-operated bed which warranted re-do surgery. After completion thyroidectomy all patients in our cohort achieved hypothyroid state.

**Conclusion:** In the wake of unclear MRI findings in neck, post first thyroid surgery, thyroid scintigraphy with Tc<sup>99m</sup> pertechnetate is useful in evaluating need for re-exploration.

186 P

## NORMAL PHYSIOLOGICAL VARIANTS ON <sup>18</sup>F-FDG PET CT SCAN IN PAEDIATRIC AGE GROUP: A PICTORIAL REVIEW

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**Objectives:** Purpose of this pictorial review is to identify the physiological uptake in normal variants in paediatric group.

**Material and methods:** Retrospective review of paediatric PET CT from 1<sup>st</sup> Sep-2017 to 15<sup>th</sup> Sep 2017 at Shaukat Khanum memorial hospital and research centre Lahore

### Results:

**Case 1:** Most common site of normal physiological <sup>18</sup>FFDG uptake is human brain which utilizes glucose as primary source of energy.

**Case 2:** Increase <sup>18</sup>FFDG uptake can be seen in the adenoids, pharyngeal tonsils and at the base of the tongue/waldeyer's ring due to high physiological activity of lymphatic tissue in paediatric age group.

**Case 3:** Mild to moderate <sup>18</sup>FFDG uptake can be seen in salivary glands however, diffuse increased activity can be seen after chemotherapy or radiotherapy.

**Case 4:** Activated brown fat shows increase physiological <sup>18</sup>FFDG activity without underlying pathological cause. But this has been known to be a source of false positive interpretation

**Case 5:** Diffuse symmetrical laryngeal uptake is a common non-pathological finding in paediatric patients. It is related to the talking before or during uptake phase.

**Case 6:** Bilateral symmetrical increase <sup>18</sup>FFDG uptake is frequent finding at orbital apex and at the floor of mouth and corresponding to extraocular muscles and genioglossus muscle respectively.

**Case 7:** Anterior mediastinal soft tissue with mild diffuse homogenous inverted V shaped <sup>18</sup>FFDG uptake represents thymus. This can be seen in normal individuals and post treatment cases as rebound hyperplasia.

**Case 8:** Increase <sup>18</sup>FFDG uptake is seen in the left myocardium. However, degree of metabolic activity can vary based on glucose level in the body because myocardium utilizes fatty acid as source of energy during fasting state.

**Conclusion:** Knowledge and proper identification of normal physiological uptake in paediatric age group increase accuracy, helpful in proper interpretation and minimize misinterpretation.

187 P

## Tc<sup>99m</sup> HYNIC-OCTREOTIDE SCINTIGRAPHY IN NEUROENDOCRINE TUMOURS - AN INSTITUTIONAL EXPERIENCE

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**Purpose:** Tc<sup>99m</sup> Hynic octreotide scan is an established somatostatin receptor imaging for neuroendocrine tumours (NETs) with reported sensitivity 88% and specificity 92%. The detection of avid tumours leads clinicians to decide for therapeutic options and hence outcomes. The aim of the study is to review the role of Tc 99m octreotide scans in staging and restaging of neuro-endocrine tumours along with SPECT/CT in our referral.

**Materials and Methods:** Retrospective review of Hynic-Octreotide scans acquired in 81 patients with known or clinically suspected NETs, from September 2008 to July 2017, using electronic Hospital Information System (HIS).

**Results:** Octreotide scans of 81 patients (males=50, females=31, age range: 06 - 75 years) are reviewed.

Nineteen different primary sites were identified: Pancreas=16, small bowel=15, appendix=9, stomach=9, para renal =4, Unknown primary sites =4, others=24.

On histopathology (n=40), well differentiated [Grade-I=18, G-II=10, unspecified=7] and poorly differentiated [GIII=5] tumours were identified. In 29 patients Ki 67 index was available. High Ki 67 index [85%] in poorly differentiated, while lower Ki 67 index [1%] was noted in well differentiated tumours. Only 1 of 5 patients with poorly differentiated tumour had octreotide avid disease.

Forty two (52%) baseline staging scans [avid disease: 29(69%), non-avid morphologically significant disease: 13(31%)]. Thirty four scans were post-operative restaging scans [avid disease: 13(38%), non-avid disease: 4(12%) and disease free: 17(50%)]. Two patients had false positive results proven on follow up radiological imaging.

In 22 cases correlation between scan findings and histopathological grading is done. Overall 89% were avid in G-1 and 57% were avid in G-2 cases; [G-1 (avid=8, non-avid=1), G-2 (avid=4, Non-avid=3), avid unspecified grade=6]

Twenty seven (33%) patients showed metastatic involvement [avid lesions in 21 (77%); non-avid lesions in 6 (33%)]. SPECT-CT acquired in 38 patients since March 2014. In addition to the primary sites SPECT/CT helped identify additional lesions in 6 scans (22%).

**Conclusion:** NETs are heterogeneous tumours with variable avidity for labelled octreotide based on the degree of differentiation. Hybrid SPECT/CT imaging is useful in localization and identification of additional lesions.

188 P

**BONE SCINTIGRAPHY IN PATIENTS WITH SARCOMA AT INITIAL PRESENTATION****MADEEHA KHALID, SAIMA RIAZ, , HUMAYUM BASHIR, AAMNA HASSAN****DEPARTMENT OF NUCLEAR MEDICINE, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

**Objective:** To determine the frequency of skeletal metastasis in patients with sarcoma at initial presentation using Tc99m MDP bone *scintigraphy*.

**Methods:** Prospective analysis of histologically proven cases of sarcoma registered at Shaukat Khanum Memorial Hospital and Cancer Research Centre, Lahore Pakistan between January 2015 and December 2016.

Data was divided into Bone Sarcomas (BS) and Soft Tissue Sarcomas (STS). Subcategorization was done on the basis of age, gender, TNM staging, and histopathology and tumour site. Frequency and percentages were calculated for each variable. Bivariate analysis was done by applying Chi-square test.  $P < 0.05$  was taken as statistically significant.

**Results:** Data of 133 patients was analysed [81 males; 52 females; age range: 9.6 months - 72 years]. 78 patients had primary BS while 55 had STS.

BS was most frequent (65%) in the 19-40 year age bracket, in males (63%). Ewing's Sarcoma (50%) was the most common histopathology, followed by Osteosarcoma (40%) and chondrosarcoma (10%). Of these 70% were located in appendicular skeleton. Based on size, T1=53%, T2=40%, T3=7% were noted. Bone metastasis was identified in 2.6%.

On bivariate analyses no statistically significant correlation was found between age ( $p=0.58$ ), gender ( $p=0.70$ ), site ( $p=0.52$ ), size ( $p=0.90$ ) versus metastases in BS group.

STS was most frequent (58%) in the 19-40 year age bracket, in males (58%). Histopathological categories were; synovial Sarcoma (31%), spindle cell sarcoma (18%), Liposarcoma (15%), leiomyosarcoma (9%), others (27%). According to region, 6% were seen in head/neck, 5% in the thorax 18% in abdomen/pelvis and 71% were located in limbs. Primary muscular involvement was noted in 51(93%), viscera 4(7%) patients. Of these, 66% had T1=66%, T2= 34%.

Bone metastasis was seen in 3.6%. On bivariate analyses no statistically significant correlation was found between age ( $p=0.06$ ), gender ( $p=0.8$ ), site ( $p=0.83$ ), size ( $p=0.64$ ) versus metastases in STS group.

There is no statistically significant difference between bone metastases frequency in BS and STS at initial presentation ( $P=0.84$ ).

**Conclusion:** At baseline 2.6% of patients with bone sarcoma and 3.6% with soft tissue sarcoma had osseous metastases. No correlative factors could be identified to predict the presence of bone metastases at presentation.

189 P

## PATTERN OF SKELETAL INVOLVEMENT IN PROSTATE CANCER AS IDENTIFIED ON BONE SCINTIGRAPHY

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**Purpose:** To review the pattern of the bone metastasis on Tc-99m-MDP bone scintigraphy in the prostate ca.

**Material and methods:** Retrospective analysis of bone scans performed between January 2017 - June 2017 in diagnosed prostate cancer patients.

**Results:** Bone scans in 199 patients were reviewed (age range 45-86 years). Bone metastases were identified in 118 (59%) patients. Of these 10 (8.5%) had solitary metastasis with bone involvement as following: pelvis 4, cervico-thoracic 3, lumber spine 3 and lower limb 1. 108 (91.5%) patients had multifocal disease with superscan in 24 (22.%) patients. The most frequent site of metastatic involvement was the pelvis n=107 (18.6%) followed by lumbosacral spine n=91 (15.8 %), cervicothoracic spine n=91 (15.8 %), ribs n=88 (15.3 %), n=73(12.7 %) in lower limbs, n=67 (11.6 %) in upper limbs, n=56 (9.7 %) in skull and 0.1 % in the manubrium sternii and the clavicle each.

**Conclusion:** Bone metastases in prostate cancer are mostly multifocal with predominant involvement of the spine.

190 P

## SPINAL ANAESTHESIA: A COMPARISON BETWEEN PARAMEDIAN AND MIDLINE APPROACH IN ELDERLY

MAJ DR FARRUKH SHEHZAD , MAJ DR BUSHRA ZAFAR , BRIG DR SM ZAHEER HAIDER , DR MUHAMMAD ADIL, DR HAMZA MALIK .

**Objective:** To compare the technique of paramedian with midline approach of sub-arachnoid block in terms of number of attempts and frequency of success rate in elderly patients undergoing elective lower body surgeries.

**Study design:** Randomized Controlled Trial.

**Place and duration:** This study was carried out at Anaesthesia Department of Combined Military Hospital Lahore. 06 months (1st Jan 2014 to 30th Jun 2014).

**Methodology:** 170 elderly patients were scheduled for lower body surgery, using spinal anaesthesia. They were randomized to either Midline approach (n =85) or Paramedian approach (n=85) by lottery method. The outcome measures number of attempts and success rate were noted in both groups and analysed using SPSS version 18.

**Results:** The successful block in first attempt was 95.3% in Paramedian group and 58.8 % in Midline group. Mean number of attempts in paramedian group was  $1.24 \pm 0.52$  as compared to  $1.95 \pm 0.97$  in midline group. p-value< 0.05 was taken significant.

**Conclusion:** The Paramedian technique associated with higher success rate, lesser possibility of repeated number of attempts in elderly patients as compared to Midline approach.

**Key words:** Lumbar puncture, Spinal anaesthesia, elderly, midline approach, paramedian approach, success rate, number of attempts.