

001 P

FREQUENCY OF BRCA1 GENE PROMOTER HYPERMETHYLATION AND LOSS OF BRCA1 PROTEIN EXPRESSION IN SPORADIC BREAST CANCER**TAQDEES ARIF¹, ZONAIRA RATHORE², NATASHA ANWAR³,****1. DEPARTMENT OF BIOLOGICAL SCIENCES FORMAN CHRISTIAN COLLEGE, 2. DEPARTMENT OF HISTOPATHOLOGY CHUGHTAI LAHORE LABS, 3. AGA KHAN UNIVERSITY, KARACHI**

Purpose/Objective: Methylation of the BRCA1 gene promoter region is associated with decreased BRCA1 protein expression. The objective of the following study was to determine promoter methylation and loss of protein expression in a small cohort of sporadic breast cancer cases.

Material/Methods: The study was reviewed by the ethics review committee at Forman Christian College. A retrospective review of cases was performed to select those with specific morphological features suggestive of BRCA1 promoter methylation. A total of 35 formalin fixed paraffin embedded (FFPE) tumor blocks were obtained from the Histopathology Section, Chughtais Lahore Lab. Of these 30 were sporadic tumor samples, and 5 were benign tumor samples. A tissue microarray containing samples from each tumor was prepared and stained for BRCA1 using a commercially available monoclonal antibody against BRCA1 (Ab-1) clone MS110 (mAb). Each IHC stain was reviewed independently by two pathologists and scored as absent, equivocal, or retained. DNA was extracted from FFPE tumor samples, the DNA was modified using a bisulfite conversion kit and BRCA1 promoter hypermethylation was detected using a methylation specific PCR.

Results: BRCA1 expression was absent in 76.6% of sporadic breast tumor samples (n=23/30), equivocal in 13.3% samples (n=4/30) and retained in 10% of samples (n=3/30). Of the 23 samples (76.6%) that had loss of BRCA1 expression, methylation was positive in 82.6% (n=19) and methylation was negative in 21.7% (n=4). Of the 4 samples (13.3%) with equivocal BRCA1 expression, methylation was positive in 50% (n=2) and methylation was negative in 50% (n=2). BRCA1 methylation was negative in all of the 10% samples with retained protein expression.

Conclusion: The results from this study will provide valuable information regarding the role of epigenetic modifications and BRCA 1 protein expression in breast cancer among Pakistani females. BRCA defective cancers are highly susceptible to DNA damaging chemotherapeutic agents such as platinum analogs, therefore BRCA1 protein expression has an impact on prognosis and management of patients. IHC can be explored as a low cost screening tool for detection of BRCA1 dysfunction, especially in our resource constrained setting.

002 P

MED12 MUTATION IN FIBROEPITHELIAL NEOPLASMS OF THE BREAST**AYESHA IFTIKHAR****BASIC MEDICAL SCIENCES INSTITUTE, JINNAH POST GRADUATE MEDICAL CENTRE, KARACHI.
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Purpose/Objective: Fibroepithelial tumors of breast include fibroadenoma and phyllodes tumor. They are biphasic tumors and arise from epithelial and stromal components of breast. Fibroadenoma are the most common benign breast tumors of breast. The mean age of occurrence is between 20 to 35 years of age. Phyllodes tumors are rare neoplasms and account for 2.5% of fibroepithelial neoplasms. The mean age of occurrence is between 30 to 70 years. They are divided into benign, borderline and malignant phyllodes tumors on histologic basis. MED12 is a gene located on chromosome X at position q13. It is believed that MED12 protein is involved in early development of cells and chemical signalling pathways within the cells. The present study is designed to detect MED12 somatic mutations in fibroepithelial tumors of the breast.

Material/Methods: Retrospective and prospective cohort study.

Inclusion Criteria: Properly fixed, paraffin embedded surgical pathological specimen of fibroadenoma and phyllodes tumor received in Department of Pathology, Basic Medical Sciences Institute, Jinnah Post Graduate Medical Centre, Karachi were included.

Exclusion Criteria: Tumors other than fibroepithelial tumors.

Relevant clinical and lab data received on surgical pathology request form. Paraffin embedded blocks. Haematoxylin and Eosin stained slides. DNA extraction taken from Paraffin embedded blocks

All relevant clinical information and the data were recorded on designed proforma. Hematoxyline and eosin stained were slides were examined under light microscopy using scanner (4x), low power (10x), and high power (40x) lenses and were also reviewed by supervisor. PCR was done on selected cases. Various parameters were recorded as mentioned in proforma.

Results: Total 52 cases of fibroadenomas were selected, 5 cases of phyllodes tumor were selected. Amongst fibroadenomas that were analysed 32.7% cases showed positive MED 12 mutation. Cases for benign phyllodes tumor were 5 out of which 3 (60%) cases showed positivity for MED12 mutation.

Conclusion: Present study concludes that MED12 gene mutation is significantly high in fibroadenomas particularly in intracanalicular type. MED12 gene mutation is higher in phyllodes tumor than fibroadenomas. patients with recurrent fibroadenomas, familial cases of fibroadenoma, phyllodes tumor may benefit from future targeted drug therapy against MED12.

003 P

MORPHOLOGICAL PREDICTORS OF BRCA1 PROMOTER METHYLATION AND LOSS OF PROTEIN EXPRESSION IN A COHORT OF SPORADIC BREAST CASES.**TAQDEES ARIF¹, ZONAIRA RATHORE², NATASHA ANWAR³****1 DEPARTMENT OF BIOLOGICAL SCIENCES FORMAN CHRISTIAN COLLEGE, 2 DEPARTMENT OF HISTOPATHOLOGY CHUGHTAI LAHORE LABS, 3 AGA KHAN UNIVERSITY DEPARTMENT OF PATHOLOGY AND LABORATORY MEDICINE LAHORE, PAKISTAN**

Purpose/Objective: BRCA1 sporadic breast cancers are associated with particular morphological features, decreased protein expression and features such as early onset, poor histological differentiation and hormone receptor negativity. The present study explored BRCA1 protein expression and morphological features in small cohort of sporadic breast tumors.

Material/Methods: The study was reviewed by the ethics review committee at Forman Christian College. A retrospective review of cases was scored for the presence of the following morphological and demographic features: age, gender, family history, tumor size, tumor stage, histological grade, lymph node status, nuclear grade, tumor growth pattern, pushing margin, necrosis, lymphocytic infiltrate, histological type, abnormal mitotic figures, ER, PR, Her2 and triple negative breast cancer (TNBC) status. A total of 35 formalin fixed paraffin embedded (FFPE) tumor blocks (30 were sporadic tumor samples, and 5 benign tumor samples) were selected for further analysis. A tissue microarray containing samples from each tumor was prepared and stained for BRCA1 using a commercially available monoclonal antibody against BRCA1 (Ab-1) clone MS110 (mAb). Each IHC stain was reviewed independently by two pathologists and scored as absent, equivocal, or retained.

Results: Chi-square analysis reveals that despite there is no significant difference between status of BRCA1 promoter methylation, age, tumor size, hormonal receptor status (ER, PR, Her2 and TNBC), lymph node status, nuclear grade, histological grade and histological type. There was a statistical significant association of BRCA1 promoter methylation with necrosis ($P = 0.035$), decreased BRCA1 protein expression (0.016) and loss of BRCA1 and Her2neu (0.026) respectively.

Conclusion: Morphological features have been shown to predict germline BRCA1 mutations, however no association was found between BRCA1 promoter methylation and morphological features in this cohort of sporadic breast tumors. This may suggest an alternative pathway of tumorigenesis when the BRCA1 protein is silenced through promoter methylation in sporadic tumors.

004 P

N-(2-HYDROXY PHENYL)-ACETAMIDE INDUCED CYTOTOXICITY IN HUMAN BREAST CANCER CELL LINE MCF-7

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Purpose/Objective: Breast cancer is recognized as one of the most common disease among women of all ages. According to the WHO about 1.43 million women are diagnosed with breast cancer in USA each year and 0.565 million women die, making it the second largest cause of death after lung cancer. It is common in Pakistani population and one in every nine women suffers from breast cancer which is one of the highest incidence rates in Asia. Many of the current pharmacotherapeutic agents like doxorubicin and cyclophosphamide are associated with toxicity and drug-resistance; there is a strong demand for the discovery and development of effective, safer and novel cancer therapies. Acetamide derivatives are recognized mostly as anti-inflammatory, analgesic, and anticancer agents.

The present study is designed to explore the activity of a novel acetamide derivative N-(2-hydroxyphenyl) acetamide (NA-2) on growth inhibition of MCF-7 cells. We also aimed to examine whether apoptosis is involve in the cell growth inhibition. Since a balance between the expressions of pro-apoptotic (BAX) and anti-apoptotic protein (Bcl-2) plays an important role in the initiation of apoptosis. We therefore also interested to study the ratio of BAX to Bcl-2 gene expressions in drug treated cells.

Material/Methods: The growth inhibitory and apoptotic activity of NA-2 on human breast cancer cell line MCF-7 was studied using MTT (3-(4, 5-dimethylthiazol-2-yl)-2, 5-diphenyltetrazolium bromide) assay. The scratch assay was also employed to study the effect of the compound on cell migration. The expression of apoptosis related markers Bax and Bcl-2 were assessed by RT-PCR and immunocytochemistry. Results were compared with standard drug doxorubicin.

Results: NA-2 has shown potential anticancer activity against MCF-7 cells with growth inhibition of 50.13% in 48 hours (dose of 250 µg/mL). Further, RT-PCR data revealed that cooperative apoptosis induction was associated with increased BAX/BCL-2 ratio ($p < 0.05$) in comparison to untreated control. Our findings support that NA-2 possesses strong apoptotic activity may be therapeutically exploited for the management of breast cancer.

Conclusion: These findings have shown NA-2 as a promising compound with potent anticancer activity in breast cancer cell model. The reduction in BAX/BCL-2 ratio has shown this compound to possess the apoptotic activity. It also has the potential inhibitory activity on migration assay. Further exploration of its mechanism through signal transduction pathway is undergoing.

005 P

INCIDENCE OF BREAST CANCER IN FEMALES OF SINDH PROVINCE - AN INSTITUTION BASED STUDY FROM 2008 TO 2014**TANWEER AHMED SHAIKH¹, BINA FSHA MANZOOR SYED², IKRAMDIN UJJAN¹, JAWAID NAEEM QURESHI³****¹DEPARTMENT OF PATHOLOGY, ²MEDICAL RESEARCH CENTER, LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES, JAMSHORO, ³DEPARTMENT OF SURGERY LIAQUAT UNIVERSITY OF MEDICAL & HEALTH SCIENCES, JAMSHORO, PAKISTAN**

Purpose/Objective: Breast cancer is the most common malignancy among females all around the world. There has been a consistent rise. This study aimed to assess age related pattern of breast cancer presentation.

Material/Methods: During the period of seven years (Jan. 2008 to Jan. 2014) prospectively collected institutional data was retrieved. The patients presented with breast cancer were included. Out of 15,906 patients of all cancers registered during the study period. The data was analyzed using SPSS 21.

Results: Out of 15,906 patients, 2026 patients presented with breast cancer counting 12.8% of all cancers. Median age of presentation was 45 years. 80% of patients were between 30-60 years of age. Youngest patient was 16 years of age and oldest was 90 years of age.

Conclusion: Breast cancer in Pakistan especially from Rural Sindh present at very young age. The peak lies between 30 and 60 years. This pattern of presentation warrants further exploration of biology of tumors so that natural guidelines for appropriate breast cancer management can be established.

006 P

STEREOTACTIC BREAST BIOPSIES; AN AUDIT AT WOMEN IMAGING UNIT**MUHAMMAD ISRAR AHMAD, MUHAMMAD OMAR ALTAF, AMJAD IQBAL****DEPARTMENT OF RADIOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

Purpose/Objective: Breast microcalcification is an important feature in the radiological assessment of breast lesions. Breast microcalcifications may be the single early sign of a malignant process, 55% of the suspicious lesions are detected by mammography. There are well established diagnostic criterias and BIRADS categorization based on the morphology and distribution of the calcifications with different recommendation protocols. The main aim of our study is to establish radio-pathological correlation of the breast microcalcifications classified according to BI-RADS with stereotactic biopsy.

Material/Methods: An audit was conducted in Women Imaging Section, Department of Radiology, Shaukat Khanum Memorial Cancer Hospital & Research Centre, Lahore from May 2013 to May in Women Imaging Department. 35 female patients were referred for stereotactic guided biopsies with mean age of 48.2 years age (range of 31 years to 74 years) showing microcalcifications on digital mammograms acquired for diagnostic / screening purposes. The microcalcifications were classified to BIRADS category 3 to 5 according to their types. The biopsy was performed using 14G Bard-magnum needle with average of four cores using GE digital mammographic machine. The histopathological results of each stereotactic biopsy were compared with the BI-RADS classification.

Results: 4 patients in our study were categorized as category 3 and 4A according to BI-RADS, likely benign, all were benign on histopathology. Out of rest 31 patients which were categorized in 4B, 4C and 5; 14 were negative on histopathology. Among the 17 patients who were proven to be malignant 6 patients were in category 5. The overall positive predictive value of biopsies was 55 %. The positive predictive value for malignancy according to BI-RADS assessment categories were as follows: 4B: 14 (63%), 4C: 11(64%) and Category 5: 6 (100%).

Conclusion: The stereotactic guided biopsy is a good technique for the radio-pathological study of breast microcalcifications, extracting adequate samples. It has less morbidity and is a low cost technique giving it an advantage over routine surgical excision. It is recommended that Vacuum Assisted Needles should be used which can further improve the diagnostic accuracy.

O07 P

IS BREAST MRI USEFUL IN INVASIVE LOBULAR CARCINOMA?**M. ASAD PARVAIZ¹, PEIMING YANG², EISHA RAZIA², TAPAN SIRCAR², PILAR MATEY², CAROLINE DEACON², BRIAN ISGAR²****SURGICAL ONCOLOGY SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN; ²DEPARTMENT OF BREAST SURGERY, THE ROYAL WOLVERHAMPTON NHS TRUST, UK**

Purpose/Objective: Breast magnetic resonance imaging (MRI) is highly sensitive in detecting invasive lobular carcinoma (ILC) of the breast. We investigate the use of breast MRI in ILC and in what proportion of patients it influences a change in the management.

Material/Methods: A prospective cohort study over a 58-months period, including all consecutive patients with ILC having breast MRI scans.

Results: A total of 334 bilateral breast MRI scans were performed. 72 (21.5%) of these were for the assessment of histologically confirmed ILC and were eligible for evaluation. All these MRI scans were carried out within 2 week of patients given the diagnosis (median 5.5 days). Age range of these patients was 24-83 (median 56.5) years.

19 out of 72 patients in ILC group (26.4%) had change in their planned operation from wide local excision (WLE) to a different operation based on the MRI. This included 7 patients with multifocal cancers, 10 patients with significantly larger size of the cancer shown on the MRI than mammogram/ ultrasound and 2 patients with contralateral malignancy. Instead of simple WLE, different operations in these 19 patients included 15 mastectomies, 1 double wire guided WLE, 1 therapeutic mammoplasty and 2 bilateral operations. With regards to the size of cancers, MRI (median 25mm) correlated significantly better with histopathology (median 23mm) than mammogram (median 17mm) and ultrasound scans (median 14.5mm). Over a median 37 months follow up (range 20-78), 2.7% mortality rate (2/72) was observed with no loco-regional recurrence or distant metastases.

Conclusion: One out of every four patients (26.4%) with ILC had a change in planned operation, including 20.8% needing mastectomies instead of planned WLE due to MRI findings, hence proving its usefulness in ILC.

008 P

ULTRASONOGRAPHIC EVALUATION OF BREAST DISEASES DURING PREGNANCY AND LACTATION

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Purpose/Objective: Ultrasonographic evaluation of breast is the foremost and appropriate radiological method to evaluate breast disorders in women during pregnancy and lactation. The aim of this article was to review different breast pathologies occurring in women during pregnancy and lactation.

Material/Methods: A prospective study of one year was done in Dr. Ziauddin University Hospital Karachi. Pregnant or / and lactating females who came for ultrasound breast examination with complain of pain, lump or discharge were included in study. Patients with previous history of incision and drainage, already diagnosed or on medical treatment were excluded from study.

Results: During study period, a total of 94 patients with an age range of 17- 42 years were included of them 78.7% were lactating and 21.27% pregnant. Right breast was most commonly involved 58.51% than left 41.48%. Most common complain was mastalgia 85.1% and most lesions were located in upper outer quadrant. Ultrasound revealed benign breast diseases in 67.02%, of them most were infective / inflammatory accounting for 55.31%. Malignancy was detected in 7.44% and 25.53% showed no sonographic abnormality. Breast abscess was the most common breast disease found 25.53% and were more common in lactating 70.83% than pregnant females 29.16%. 9 breast abscesses, 2 galactocele underwent aspiration, mastitis and infected sebaceous cysts were managed conservatively. Trucut needle biopsy done in 6 and FNAC in 2 patients for suspicious looking lesions.

Conclusion: Ultrasound is useful in early detection however, diagnosis is challenging due to physiological changes secondary to hormonal stimulation.

009 P

ISOTOPE-ONLY LOCALISATION OF SENTINEL LYMPH NODE BIOPSY - A SAFE ALTERNATIVE TO DUAL TECHNIQUE**M. ASAD PARVAIZ¹, ELIZABETH BALL², FIONA MACNEILL², NICOLA ROCHE², JENNIFER RUSBY²****1 SURGICAL ONCOLOGY DEPARTMENT, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL, LAHORE, PAKISTAN; 2 DEPARTMENT OF BREAST & ONCOPLASTIC SURGERY, THE ROYAL MARS DEN NHS FOUNDATION TRUST, UK**

Purpose/Objective: Isotope and blue dye dual localisation in sentinel lymph node biopsy (SLNB) gives localisation rates of over 98% and is recommended by the ABS (Association of Breast Surgeons UK) guidelines. However blue dye carries a risk of adverse reactions. We stopped routine use of blue dye in 2011 but patients without a clear isotope signal from the axilla do have blue dye injection. We investigated outcome of isotope only SLNB.

Material/Methods: All patients intended for isotope only SLNB between July 2010 and April 2012 were included from a prospectively maintained database. Localisation and recurrence data were collected. Potential predictive factors for failure of isotope localisation were assessed using Fisher's exact test. SLN yield and axillary disease burden were also collected.

Results: 438 SLNB were performed in 431 patients (2 men and 429 women). Median age was 57 (range 26-91). Isotope-only localisation rate was 97% (425/438). Median SLN yield was 2 (range 0-5). At 40 months median follow up (range 33-54) axillary recurrence rate was 0.6% (never as first site of recurrence). In-breast recurrence was 1.5%, contralateral cancer 2.1%, distant recurrence 4% giving a disease free survival rate of 92.4%. Breast cancer mortality was 2.7%.

Predictive factors for the failure of isotope-only localisation included previous breast or axillary surgery (p=0.0001 and p=0.0022 respectively) and isotope injection on the day before operation (p=0.0002). Factors that did not influence success of isotope only localisation included patient age, BMI, neoadjuvant treatment, type of breast operation and tumour pathology/receptors.

Conclusion: Isotope-only SLNB has a high localisation rate and spares the majority of patients the risk of blue dye adverse reactions. The low axillary recurrence rate suggests that clinically relevant nodal disease has not been overlooked, confirming that this is feasible and safe alternative to dual technique

010 P

BREAST CANCER IN THEIR TWENTIES: CLINICAL OUTCOME OF VERY YOUNG BREAST CANCER PATIENTS IN A CANCER HOSPITAL IN PAKISTAN.**HASAN ALI, SAMREEN UMER KHAN , HUMA MAJEED KHAN, MOHAMMAD ZULQARNAIN CHAUDHARY AND AMINA IQBAL KHAN
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Purpose/Objective: Young age breast cancer remains a clinical challenge. The following study aims to review the outcome and treatment options rendered to patients below 30 years of age presenting with breast cancer in a Pakistan Cancer Hospital.

Material/Methods: Retrospective review of consecutive patients under 30 years of age presenting to Shaukat Khanum Memorial Cancer Hospital from 2002 to 2009.

Results: A total of 195 patients were reviewed. All patients were between 20-29 years with mean age of 26.34 years. Invasive ductal carcinoma was found in 187 (96.4%) of patients with 83% of them presenting with Grade 3 tumors. None of the patients reviewed had an In Situ component. There were 108 (55.4%) ER/PR negative cases. Primary surgery was BCS in 89 (45.6%) patients with 96.6% receiving radiotherapy. Ninety-four (48%) patients had a mastectomy and 87.8% of these patients received post mastectomy radiotherapy. A large proportion (45%) of the BCT patients had surgery outside our hospital and were offered re-excision to negative margins. The remaining majority (47.2%) in the BCT group comprised of patients with T2 tumors. In comparison, patients who had mastectomy 33% had Tx tumors and 36.3% had T3-T4 tumors ($p = 0.00$). Complete nodal response was detected in 65% of the patients having BCT and 40% having mastectomy ($p = 0.006$). Overall 40% of the patients reported recurrence of any type with 28% of these recurring within 2 years of initial presentation. Recurrence was seen in 27 (30%) BCT and 42 (47%) mastectomy patients ($p = 0.015$). Average follow up was 61 months (Range 3-151 months). After controlling for grade of tumor, tumor size, nodal status, ER/PR and treatment (chemotherapy/radiation) Cox regression model showed no significant difference in survival in patients treated with BCT or mastectomy.

Conclusion: Breast cancer in young women is an aggressive and challenging disease with high mastectomy and recurrence rates. Targeted studies are required to optimize care of these young patients

011 P

IMPACT OF SALVAGE SURGERY ON SURVIVAL IN PATIENTS WITH METASTATIC BREAST CARCINOMA**MUHAMMAD FAHD SHAH, AWAIS AMJAD MALIK, IRFAN UL ISLAM NASIR, MUHAMMAD TAQI PIRZADA. AMINA KHAN.****SURGICAL ONCOLOGY DEPARTMENT, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

Purpose/Objective: Breast cancer is the most common cancer and is the second leading cause of cancer deaths in females. It is estimated that 3-10 % of females have metastasis at the time of presentation and during the course of the disease 30-40% further patients will develop metastasis. It is an incurable disease with the median survival for patients with MBC is 16-24 months. The objective of our study was to evaluate the efficacy of locoregional treatment for metastatic breast cancer (MBC).

Material/Methods: The study was conducted in department of Surgical Oncology, Shaukat Khanum Memorial Cancer Hospital & Research Centre, Pakistan. Retrospectively review from Jan 2004 to Dec 2014. A total of 61 patients who underwent salvage surgery were included and those whom were not operated were excluded. Statistical comparison between subgroups of patients and Cox model for multivariable analysis were performed. Factors included were age group (< 45 years Vs > 45 years), tumor type, nodal status, H2N receptor positivity, hormonal receptors status, family history and number of metastasis site (1 Vs > 1). Kaplan Meier test was applied to look for the overall survival.

Results: A total of 61 patients were identified. Median age was 49 (39-55). Familial cancers were found in 17 (27.9%) of patients. IDC was most common type which was observed in 53 (86.9%) patients. Majority were T2; 36 (59%). 19 (31%) patients showed H2N receptor positivity while ER receptor positivity was seen in 46 (75.4%) patients. Most common site of metastasis was bone i.e. 40 (65.6%) followed by lung which was 25 (41%). 3 year overall survival was found to be 41% in our patients.

Conclusion: Patients with metastatic breast cancer do benefit from salvage surgery in terms of quality of life and better local control.

012 P

OVERCOMING AGEISM BIAS IN THE TREATMENT OF BREAST CANCER: STANDARD AND NON-STANDARD STRATEGIES IN THE ELDERLY

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Purpose/Objective: About 30% of all breast cancers occur in women aged over 70. The primary challenge of caring for older cancer patients is providing treatment options that maximize long-term survival while accounting for comorbidities, life expectancy, and effects of treatment.

Material/Methods: All breast cancer patients aged over 70 in the last five years were included. Preoperative fitness assessment segregated patients into two groups.

Results:

Total	Group A (Standard treatment)	Group B (Non-standard treatment)	p value
n = 262	192 (73%)	70 (27%)	
Age range (median) 70-97 (79)	70-95 (78)	71-97 (84)	< 0.0001
Surgery	192 surgery under general anaesthesia (69 mastectomies, 123 wide local excisions)	12 Wide local excision under local anaesthesia	
Adjuvant treatment	14 chemotherapy 146 radiotherapy 161 hormone treatment 7 trastuzumab (Herceptin)	60 primary endocrine treatment 6 palliative radiotherapy	
Surviving patients n = 215 (82%)	173 (90%)	42 (60%)	< 0.0001
Mortality n = 47 (18%)	19 (10%)	28 (40%)	< 0.0001
Follow-up Range 0-59 months (median 30)	0-59 (29)	4-58 (32)	
Time to death 0-58 (20) months	3-58 (24)	0-47 (19.5)	< 0.0001

Reasons for inclusion in group B included medically unfit (50), mental health issues (3), patients choice (14) and unknown (6).

Conclusion: Patients in group A were relatively younger, healthier, had a significantly longer survival and longer time to death. Mortality was significantly higher in group B. With appropriate selection of patients into standard and non-standard treatment groups, elderly breast cancer patients can be treated to maximize long-term survival. These favourable clinical findings should help clinicians counter highly prevalent 'ageism' bias in the breast cancer treatment.

013 P

PAPILLARY LESIONS OF THE BREAST.**SHAISTA GUL, SHAHNAZ IMDAD KEHAR, AYESHA IFTHEKHAR, JAVED IQBAL.****DEPARTMENT OF PATHOLOGY. BASIC MEDICAL SCIENCES INSTITUTE JINNAH
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Purpose/Objective: Intraductal papillomatous breast lesions are uncommon and constitute about 2-3% of all tumors of the breast. Most of them originate from the epithelium of lactiferous duct. They are classified as benign, atypical and malignant variants. It is often a difficult task to distinguish the morphology of these histological subtypes. The average age of presentation is 30 to 70 years age group.

Material/Methods: Case presentation: We received a left sided breast specimen with the axillary tail of a 32 year old woman in our department. The history provided revealed complaints of subareolar mass and bloody discharge from nipple from the last six months.

Macroscopically These are well-defined, oval or rounded lesions located within a dilated lactiferous duct, may be pedunculated or broad-based measuring few millimeters in diameter presented as subareolar mass. Malignant tumors may be cystic or solid. Microscopically Presented as proliferation of ductal epithelium with or without myoepithelial cells with a fibrovascular core.

Immunohistochemistry Almost all cases are strongly and diffusely positive for Cytokeratin, CD 10 and ASMA while CK5/6 helps to differentiated between papilloma and papillary carcinoma.

Conclusion: The distinction between benign and malignant papillary lesions based on H&E morphology is very challenging especially in core biopsies. High molecular weight cytokeratin ME markers and basement membrane markers are helpful.

014 P

A GROUNDED CLARIFICATION OF WHY WOMEN PRESENT ADVANCED BREAST CARCINOMA**FAISAL GULZAR^{1,2,3}, SAJIDA JAMIL¹, RAFSHAN SADIQ², MOHSIN ALI KHAN³****¹DEPARTMENT OF PHARMACOLOGY, FACULTY OF PHARMACY, UNIVERSITY OF SARGODHA, SARGODHA, PAKISTAN; ²PINUM CANCER HOSPITAL, FAISALABAD, PAKISTAN, ³HEALTH BIOTECHNOLOGY DIVISION, NATIONAL INSTITUTE FOR BIOTECHNOLOGY AND GENETIC ENGINEERING (NIBGE), FAISALABAD, PAKISTAN**

Purpose/Objective: There is strong evidence that delayed diagnosis of breast cancer is associated with poor survival. Our objectives were to determine the frequency of breast cancer patients with delayed presentation, the reasons of delay and its association with different socio-demographic variables at PINUM Cancer Hospital, Faisalabad.

Material/Methods: We interviewed two hundred twenty five women who were aged 22-82 years and who had histologically confirmed breast cancer. Delay was defined as more than 3 months from the appearance of symptoms to a health care provider or consultation with a doctor. Questions were asked from each patient which could reflect their understanding about the disease and which could be the likely reasons for their delayed presentation.

Results: 58.7% (n=132) of patients presented late and out of those, 27.3 % thought that painless lump and ignorance of disease; 24.2 % having a fear of isolation or surgery; 15.9% felt shyness; 21.2% wasted time using alternative or herbal treatment and spiritual belief of healing; 9.1% did not have enough resources and 2.3% presented late due to other reasons. < 8 school years of education was significantly associated with delayed presentation (p < 0.001). Education was independent variable related to the delayed presentation after adjustment for others (OR of 2.56, and 95% CI was 1.44-4.5).

Conclusion: Significant numbers of women with breast cancer in Pakistan experience presentation delay due to their misconceptions about the disease. Coordinated efforts with public health departments are needed to educate the focused groups and removing the barriers identified in the study. Long term impact will be reduced overall burden of the disease in the region.

015 P

EFFICACY OF NEOADJUVANT HORMONAL THERAPY IN BREAST CANCER: FIVE YEARS EXPERIENCE AT SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE**AMBREEN ZAIDI, IRFAN UL ISLAM NASIR, MUHMMAD TAQI PIRZADA, MUHAMMAD FAHD SHAH.****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

Purpose/Objective: The role of neoadjuvant endocrine therapy for resectable breast cancer is not well established, despite encouraging results obtained in the metastatic and adjuvant settings. In recent years, studies investigating neoadjuvant therapies have been emerging, because of the additional benefits it provides in terms of facilitating less extensive surgery and the possibility of investigating tumor biological features and response. In this study we present our experience with neoadjuvant hormonal therapy.

Material/Methods: After obtaining approval from institution review board, hospital information system was used to identify patients who were not fit or had any contraindication to chemotherapy from January 2005 to December 2010. These patients, after obtaining consent, were subjected to neoadjuvant hormonal therapy and then surgery was performed. Follow up was carried out for five years. Disease free survival and overall survival was obtained using SPSS 20.

Results: In total 37 patients who received neo-adjuvant hormonal therapy, all were post-menopausal with a mean age of 70.25 +/- 8.5, and breast feeding history was positive in all. Majority of the patients (30) presented with breast lump. Family history was positive in 10 patients (37%) and also 10 patients (37%) had multifocal disease. Stage wise 19% (7 patients) were in stage I, 43.2% (16 patients) in stage II, 13.5% (5 patients) in stage III and 24.3% (9 patients) in stage IV. Overall disease free 5 year survival was 59.5% with a median follow up of 38 months.

Conclusion: Neoadjuvant hormonal therapy is a safe option in patients with contraindication to chemotherapy or upfront surgery.

016 P

STUDY ON QUALITY OF LIFE OF BREAST CANCER PATIENTS RECEIVING FIRST LINE CHEMOTHERAPY IN A TERTIARY CARE HOSPITAL

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Purpose/Objective: The aim of our study is to assess how the quality of life of patients with Breast cancer is affected by the side effects of chemotherapy and to identify the factors implemented in it.

Material/Methods: Questionnaire form was developed which includes questions on side effects of chemotherapy, that ask presence and severity of psychological, spiritual and social wellbeing and extent of fear in patients receiving chemotherapy. On this form, severity is marked from 0 to 5, where (0) indicates no problem and level (5) indicates most severe problem. The questionnaire forms are filled by patients after taking their written consent and explaining the study to them. The patients' data is collected from Oncology Daycare at the Aga Khan University Hospital.

Results: Breast Cancer patients who are receiving chemotherapy with doxorubicin, cyclophosphamide and Taxanes (Paclitaxel/Docetaxel). Patients aged above 20 years and below 65 years.

1 – Patients with chronic diseases such as diabetes, hypertension and known cardiac diseases.

2 – Patients who are suffering from depression and psychiatric illnesses

Fatigue is experienced by almost 96% percent of patients; of whom 15% are affected mildly, 37% moderately and 44% are severely suffered. Changes in appetite is experienced by 93% patients; of whom 19% are suffered mildly, 37% moderately and 36% are suffered with severity. Pain is suffered by 92% patients; 31% mildly, 36% moderately and 25% severely faced it. Sleep influenced 81% patients, of whom 31% are affected only mildly, 23% moderately and 31% are severely affected. Vaginal dryness and menopausal symptoms are experienced by 70 % patients of whom 36% are affected mildly, 28 % moderately and 6 % felt severely. Menstrual problems and fertility issues are dealt by 67% patients, of whom 31%experienced it mildly, 26% moderately and 10 % suffered severely. Fear of Loss of hair: 20% have no such fear, whereas 23% have it mildly, 13% moderately and 44%have severe fear. Fear of Financial burden: 16% have no such fear, 10% have it only mildly, 14% moderately, and 60 % have great fear. Fear of Cancer Recurrence: 13% have no such fear, 16% experience it mildly, 36% moderately and 35% have great fear. Fear of spreading of cancer: 10% have no such fear, 23% have it mildly, 32% moderately, and 35% have severe fear. Fear of future Diagnostic tests: 13% have no such fears, 23% have it only mildly, 41% have moderate and 23% have severe fear. Feel of coming back to normal life: 16% have it mild, 33% have moderate, and 47% have great desire to come back to normal life whereas 4 % didn't show any such desire. Difficulty to cope due to treatment: 20% patients have severe difficulty to cope due to the treatment, 25% have moderate, and 35% have mild difficulty whereas 18% didn't have any difficulty..*(truncated)*

Conclusion: After conducting the above study, following conclusion are derived: Severely affecting problems to most of the patients are fatigue, pains, changes in appetite and sleep whereas menstrual, vaginal and fertility problems are of mild to moderate severity. Most of the patients are surrounded by a fear that would they be able to get back to their normal life again or not. Severely affecting fears are the expenses and financial burden followed by future diagnostic tests Rest of the fears are of mild to moderate severity. Although there is some dissatisfaction in life and difficulties in concentration and coping up with the situation, overall most of the people feel happy, hopeful and find their selves still useful. Most of the patients have severe concerns regarding financial burden and secondly the cancers in their families but on the other hand great number of patients receive high level of support from their relatives and friends. A large number of patients are found to be highly motivated towards religion and spiritual activities.

017 P

SYNCHRONOUS BILATERAL INTRACYSTIC PAPILLARY AND INVASIVE DUCTAL BREAST CARCINOMA IN A YOUNG FEMALE: A RARE ENTITY**S. IMTIAZ, R. USMAN, S. AHMED, K. SHAZLEE, K. HAMEED, M. IRSHAD****ZIAUDDIN UNIVERSITY HOSPITAL, KARACHI, PAKISTAN**

Case Report: Intracystic Papillary breast carcinoma is a rare entity of invasive breast cancer accounting for approximately 0.5%. It is most frequently seen in elderly postmenopausal women with age range between 55- 76 years. It also occurs in males and is the second most common cause of breast carcinoma in males. Only few cases of intracystic papillary carcinoma of breast has been reported in women less than 40 years of age. This article reports a case of synchronous bilateral intracystic papillary carcinoma and invasive ductal carcinoma of breast in a 34 year old female. Its occurrence in a young female is a novelty. This case is also unique due to synchronous and bilateral involvement. Furthermore, it was co-existent with invasive ductal carcinoma which has been associated with it in only 40% of the cases.

018 P

PATIENTS' PERCEPTIONS AND USAGE OF ON-CALL BREAST CARE NURSES' MOBILE PHONE SERVICES AT SHAUKAT KHANUM CANCER MEMORIAL HOSPITAL AND RESEARCH CENTER**ALI F., BASHARATULLAH M., PERVEEN M., ASHARAF L., BURQ H., AYAZ T.****SHAUKAT KHANUM CANCER MEMORIAL HOSPITAL AND RESEARCH CENTER,
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Purpose/Objective: Breast cancer is the most common cancer worldwide which starts in the cells of breast, grow in an uncontrolled way and form a tumor. Breast cancer mainly affects women but men can also get it rarely. Over the course of a lifetime, one in eight women is at the risk of developing breast cancer worldwide (Macmillan, 2015). In the management of breast cancer, nursing care plays an integral role. Nursing intervention can significantly improve quality of life of patients with breast cancer. Nursing care with the focus on emotional support, improves breast cancer patient's adjustment to everyday life. In our institute, women are offered the opportunity to talk about illness-related thoughts and reactions, as well as to express feelings of anxiety and fear with Breast care nurses. Breast Care Nurses addressing such concerns focus to the holistic care of the patients. At Shaukat Khanum Cancer Memorial Hospital and Research Center, Breast care team offered the different types of services to the breast cancer patient.

Material/Methods: This clinical audit is conducted at Shaukat Khanum Cancer Hospital & Research Center. Data has been collected using two methods.

A structured questionnaire to collect data from breast cancer patients

Breast Care Nurses developed a log for all calls on BCN mobile phone for three months.

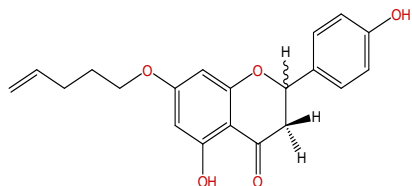
Data analysis: Descriptive statistics and data analysis of quantitative audit Will be analyzed in SPSS tool.

Conclusion: At the end, we will evaluate the patients' feedback or perceptions about BCN mobile phone services if it is effective or beneficial for patients.

019 P

ANTI-PROLIFERATIVE EFFECTS OF A NATURAL FLAVONOID LAWSONARINGENIN AGAINST HT-29 COLORECTAL CANCER CELLS**S AREEBA ANWAR^a, M. IQBAL CHOUDHARY^a, NIZAM UDDIN^b, BINA SHAHEEN SIDDIQUI^b, RAFAT A. SIDDIQUI^c.****^aDR. PANJWANI CENTER FOR MOLECULAR MEDICINE AND DRUG RESEARCH, ^bH.E.J. RESEARCH INSTITUTE OF CHEMISTRY, INTERNATIONAL CENTER FOR CHEMICAL AND BIOLOGICAL SCIENCES, UNIVERSITY OF KARACHI, PAKISTAN; ^cFOOD AND NUTRITION RESEARCH LABORATORY, AGRICULTURE RESEARCH STATION, VIRGINIA STATE UNIVERSITY, PETERSBURG, VA. USA.****Purpose/Objective:**

Colorectal cancer is the third most common malignancy with a high mortality rate. Flavonoids possess many pharmacological activities, including anti-cancer activity. Lawsonaringenin (1) (LSG) is a natural flavonoid, isolated from Lawsonia alba (Henna). Several biological activities of LSG plant and leaves extracts and isolated compounds from these extracts have been reported, including fungitoxic, antimicrobial, anti-oxidant, analgesic, immunomodulatory, and anti-inflammatory activities. The objective of this study was to evaluate the anti-cancer potential of LSG against colorectal cancer cells in vitro. The HT-29 cells were treated with LSG and its effect on cell cycle and apoptosis was monitored using flow cytometry. We have also investigated the mechanisms underlying LSG-mediated growth inhibition of HT-29 cells after 48 hours of treatment with LSG at 23.4 μ M (IC₅₀) and 50 μ M concentrations, while 50 μ M 5-fluorouracil (5-FU) was used as reference (positive control). The IC₅₀ (23.4 μ M) value of LSG was found to be significantly less than the IC₅₀ value of reference 5-FU (50 μ M). The q-RT PCR and immunocytochemical analyses showed that LSG downregulated the expression of β -catenin (non-phosphorylated), and its downstream signalling target c-Myc. Whereas it increased the phosphorylation of β -catenin. The levels of oncogene K-Ras were also decreased after the treatment with LSG. The results also demonstrated the anti-proliferative effect of LSG by mediating cell cycle arrest during the S-phase (synthesis phase). Furthermore, LSG also induced apoptosis and downregulated the expression of anti-apoptotic protein, Bcl-2. Consistently, morphological examination by DAPI staining showed the condensation of nuclei. In conclusion, we demonstrated here that LSG exerted its anti-tumour activity by arresting the cell cycle in S phase, and by downregulating the transcriptional activity of Wnt/ β -catenin pathway and K-Ras oncogene. Our results further demonstrate that LSG induces apoptosis by decreasing the expression of survival protein, Bcl-2. Therefore, this study suggests the potential of lawsonaringenin (1) as a lead for further study as chemotherapeutic agent for colorectal cancer.



Lawsonaringenin (1)

020 P

CONTRIBUTION OF MLH1, MSH2 AND MSH6 GERMLINE MUTATIONS TO COLORECTAL CANCER IN PAKISTAN

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Purpose/Objective: Germline mutations in the DNA mismatch repair (MMR) genes account for the majority of hereditary non-polyposis colorectal cancer (HNPCC). Since nothing is known about HNPCC and the contribution of MMR genes mutation to colorectal cancer (CRC) in Pakistan, we investigated the prevalence of MLH1, MSH2, and MSH6 mutations in CRC patients from this population.

Material/Methods: Consecutive CRC cases (n=212) were recruited at the SKMCH&RC, between November 2007 to March 2011. Clinico-histopathological data, family history and blood samples were collected. Cases fulfilling the Amsterdam-II criteria or a less stringent criteria were classified as HNPCC/suspected-HNPCC (Group 1; n=29). Others cases were designated as non-HNPCC (Group 2; n=183). MLH1, MSH2 and MSH6 genes were comprehensively screened using denaturing high-performance liquid chromatography followed by DNA sequencing of variant fragments in Group 1. Deleterious mutations identified in Group 1 were subsequently screened in Group 2.

Results: Seven distinct pathogenic MLH1/MSH2 mutations were identified in ten patients of Group 1 (10/29; 34.5%), one of these was novel. Two recurrent mutations in MLH1 and MSH2 were identified in two patients of Punjabi ethnicity or three cases of Pathan background, respectively. A novel c.2656G>T MSH2 mutation was detected in a female patient diagnosed with endometrial and breast cancer from a family with phenotypic overlap of hereditary breast and ovarian cancer and suspected-HNPCC. Disease-causative MSH6 mutations were not detected. Screening of the 183 non-HNPCC patients in Group 2 for the seven MLH1/MSH2 mutations revealed one additional patient harboring MLH1 mutation (1/183; 0.5%). The MLH1/MSH2 mutation carriers were more often presented with proximal tumor (5/10, 50% vs. 27/200, 13.5%; p = 0.02) and greater tumor size (>5 cm) (6/10, 60% vs. 28/200, 14.0%; p = 0.02) than non-carriers.

Conclusion: Our findings show that MLH1 and MSH2 mutations account for a substantial proportion of HNPCC/suspected-HNPCC patients in Pakistan. The present study warrants the screening of MLH1 and MSH2 genes in HNPCC/suspected-HNPCC families from Pakistan.

021 P

STAINING PATTERN OF CD99 IN SOLID PSEUDOPAPILLARY TUMOR OF PANCREAS. SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE**NAMRA NAEEM, SAJID MUSHTAQ, NOREEN AKHTAR, MUDASSAR HUSSAIN, SAFANA SADAF, USMAN HASSAN, ASIF LOYA****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

Purpose/Objective: Solid pseudopapillary tumor is a rare pancreatic tumor that typically affects young women and has an excellent prognosis after surgical resection. Abnormality in Wnt signal transduction pathway due to E-cadherin/ β catenin mutation has been implicated in their pathogenesis. Differential diagnosis includes Pancreatic neuroendocrine tumors and Pancreatoblastoma. Immunohistochemically these tumors show positivity for NSE, Vimentin, CD10, PR and β catenin with negativity for neuroendocrine markers. Recently, a unique dot like staining pattern of CD99 in contrast to membranous staining in panNET has been described in few studies.

Material/Methods: A total of forty eight patients (n=48) pathologically diagnosed as solid pseudopapillary tumor from archives of Shaukat Khanum Memorial Cancer Hospital and Research Centre during the period of 2000-2016 were retrieved and their morphological features and immunohistochemical profile was reviewed and analyzed. The morphological features were considered as gold standard for the diagnosis.

Results: Of the 48 patients, 45 were female and 3 were male. Their mean age was 33 years (range 8-50 years). Immunohistochemical stains were performed on 40 cases on formalin fixed paraffin embedded sections. CK was performed on 5 cases and showed positivity in 2 cases. NSE, CD56, Vimentin, CD10, PR and β catenin was performed on 7, 4, 3, 10, 9 and 14 cases respectively and showed positivity in all cases. Neuroendocrine markers (Chromogranin and Synaptophysin) performed on 17 and 3 cases were negative. CD99 was performed on 9 cases and showed characteristic dot like staining.

Conclusion: CD99 has a specific dot like staining pattern in solid pseudopapillary tumor and can be used as a first line marker in diagnosis.

022 P

GALLBLADDER ADENOCARCINOMA, A POTENTIAL TARGET FOR ANTI-HER2 THERAPY

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Purpose/Objective: Her-2 (ErbB-2) is an oncogene frequently overexpressed in breast and gastric adenocarcinomas and anti Her-2 targeted therapy can be given to such patients. Her-2 overexpression and role of anti Her-2 targeted therapy in cases of gallbladder adenocarcinomas (GBAC) is still debatable. Scoring protocols for Her-2 expression in breast and gastric carcinomas are standardized, however not for carcinomas arising in other body organs like gallbladder. This study is conducted to evaluate expression of Her-2 in patients with GBAC which may benefit from targeted therapy.

Material/Methods: It is a cross-sectional study conducted on patients with GBAC (n = 43; 34 women and 9 men). An automated immunohistochemical technique was used with an anti-ErbB2 antibody. Scoring was conducted according to the CAP (College of American Pathologists) criteria for breast cancer, as well as for gastric and gastroesophageal junction carcinomas.

Results: When the scoring protocol for breast carcinomas was used, positive Her-2 staining was observed in 11/43 (25.6%). Out of 11 positive cases, 5 cases (11.6%) were unequivocally positive (3+) and 6 (13.9%) showed equivocal staining. According to the gastric and gastroesophageal junction carcinomas protocol, positive Her-2 staining was observed in 16/43 (37.2%). Out of 16 positive cases, 11 (25.5%) were unequivocally positive (3+) and 5 (11.6%) showed equivocal staining.

Conclusion: This study indicates that significant number of GBAC cases show Her-2 overexpression when either of the two documented protocols is used. This subgroup may benefit from inhibitors of the Her-2 pathway. Standardization of scoring protocol for Her-2 expression in GBAC is needed to better evaluate predictive potential of Her-2 for treatment of these tumors.

023 P

DIAGNOSTIC VALUE OF ORAL CONTRAST STUDY FOR DETECTING ESOPHAGOGASTRIC ANASTOMOTIC LEAK AFTER ESOPHAGECTOMY.**MOHAMMAD IJAZ ASHRAF, SADAF BATOOL, OSAMA SHAKEEL, IRFAN UL ISLAM NASIR, SAYYED RAZA HUSSNAIN, SHAHID KHATTAK, AAMIR ALI SAYYED****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

Purpose/Objective: After esophagectomy , oral aqueous contrast study is performed to detect the integrity of esophagogastric anastomotic leak after esophagectomy. The aim of this study is to determine the clinical relevance of this radiological study for detecting leak.

Material/Methods: All patients who underwent esophagectomy either 3 stage or transhiatal between August 2015 to August 2016 were reviewed retrospectively on outcome of routine oral aqueous contrast study and appearance of anastomotic leak. All the data including type of surgery, contrast study performed on post-operative day, results of contrast study, diagnosis of leak either on contrast study, clinically or CT scan were recorded on a pre-formed data sheet. All the data was analysed on SPSS 20.

Results: Contrast study was done in 85 out of 89 patients on postoperative day 5 . In 2 patients , contrast study could not be interpreted by the radiologist. Total of 7 patients developed anastomotic leak and in those 4 out of 7 patients, the leak had already manifested clinically before the routine contrast examination was planned. In remaining 3 patients with anastomotic leak, contrast study was negative and leak was detected later on clinical grounds or on CT findings.

Conclusion: Contrast study has no significant role in identifying esophagogastric leaks.

024 P

MICROSATELLITE INSTABILITY IN COLON CANCER**A. QURESHI****SHIFA INTERNATIONAL HOSPITAL ISLAMABAD PAKISTAN**

Purpose/Objective: The purpose of this study is to demonstrate the role of Immunohistochemistry in classifying colonic adenocarcinomas into microsatellite stable (MSS) microsatellite low (MSL) and microsatellite high (MSH).

Material/Methods: This is an ongoing study which is being done on colonic cancers diagnosed at shifa international hospital Islamabad. The study was started in January 2015. All newly diagnosed cases of colonic adenocarcinoma are being included in the study. Microsatellite instability will be demonstrated by IHC. Formalin fixed paraffin embedded tissue will be used for performing the test. Both genders and all age groups will be included.

Results: Till 15th may 2016 29 cases of colonic adenocarcinoma have been stained with Immuno-stains to demonstrate microsatellite instability. Of these 29 cases 20 are males and 9 are females. Male to female ratio is 2.1:1. Age range is 26 to 78 years (mean age is 52 years). 25 out of 29 cases stained positive with all markers of Microsatellite instability (MLH 1, MSH 2, MSH 6 and PMS 2) this means microsatellite stable (MSS). 2 cases showed deficiency in MLH 1 only microsatellite low (MSL). Two cases showed negativity for MSH2 and MSH 6 which translates into microsatellite high (MSH). One case had signet ring morphology and the other case showed serrated architecture. Only those cases which are MSL or MSH need further treatment.

Conclusion: Majority of the colonic adenocarcinomas (with conventional glandular morphology) are microsatellite stable MSS this confirms the adenoma carcinoma sequence. Whereas those which are Microsatellite unstable or high possibly have Lynch syndrome pathway (HNPCC).

025 P

A RE-AUDIT ON USE OF PERCUTANEOUS NEPHROSTOMY IN ADULT PATIENTS WITH MALIGNANT URETERIC OBSTRUCTION**SIDRA ASLAM, MANSOOR ABBAS, MARYAM ARSHAD, JUNAID IQBAL****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

Purpose/Objective: Pelvic and retroperitoneal malignancies can cause obstructive uropathy leading to uraemia and severe acute kidney injury (AKI). Palliative decompression of the obstructed urinary system, either by percutaneous nephrostomy (PCN), ureteric stent or a combination of both can be used but offer uncertain benefits in improving renal and patient outcomes in people with advanced cancer. We aim to compare rates of complications post PCN insertion at our centre to society of interventional radiology standards and incidence of such complications to previous audit performed in 2008. We also looked at patient and renal outcomes post PCN insertion.

Material/Methods: 300 patients, who received either unilateral or bilateral PCN between January 2015 and June 2016, were identified via hospital Medical Information System (MIS). We looked at every 3rd consecutive patient's medical notes retrospectively for demographics, details of malignancy, change in renal function, emergency presentation and need for admission post- PCN insertion and patient outcomes (n= 100). All these patients were receiving active treatment for underlying malignancy at SKMCH&RC. .

Results: 72% were male and locally advanced bladder cancer was the most common malignancy in this group. None of the patients had any major complications post PCN insertion. Almost half of the patients (47%) returned to Emergency room within 30 days of PCN insertion, due to symptoms related to minor complications post PCN insertion with catheter displacement being commonest (27%). 1/3rd of patients required repeat PCN insertion within 60 days. Renal function never recovered in 24%. 56% either died or were lost to follow up. Rates of minor complications (including catheter displacement and infection) were lower compared to previous audit.

Conclusion: PCN insertion is a safe procedure however does not offer improved renal and patient outcomes in people with advanced malignancy. Benefits vs. risks of PCN insertion as part of therapeutic or palliative procedure should be discussed on an individual basis.

026 P

CDX2 IS NOT THE SOLE INDICATOR OF INTESTINAL ORIGIN CANCER IN PATIENTS PRESENTED WITH OVARIAN TUMORS**JAWAD ALI MEMON, NAEEM AHMED LAGHARI****NUCLEAR INSTITUTE OF MEDICINE & RADIOTHERAPY (NIMRA), JAMSHORO, PAKISTAN**

Purpose/Objective: It is utmost important to differentiate primary epithelial ovarian carcinoma from metastatic carcinoma particularly of intestinal origin, because this may affect the choice of the treatment & overall patient prognosis. Immunohistochemistry is most frequently method being used to stratify between these & specially CDX2 considered to be highly sensitive & specific marker for the neoplasms of intestinal origin. Aims Objectives: In the present study we have clinically & radiologically evaluated the cases of ovarian tumors, which are reported metastatic from colon based on expression of CDX2 marker.

Material/Methods: 12 patients which were undergone oophrectomy & biopsy reported as metastatic ovarian carcinoma from colon origin, based on histopathology features & CDX+ immunohistochemistry marker, were included in our study. All the patients evaluated through detailed clinical history & examination, upper & lower GI endoscopy, CT scan whole abdomen with contrast & tumor markers including CA 125, CEA, CA 19.9 & AFP).

Results: No history of GIT specific symptoms like vomiting, constipation, diarrhea, bleeding per rectum were noted in any patient. Upper & lower GIT endoscopies failed to identify any suspicious lesion. No bowel related mass or wall thickening noted in CT scan abdomen with contrast. The serum level of CA 125 and CEA were only mildly raised in most patients. No evidence of primary colon lesion was noted in these patients in spite of extensive workup. Eventually the patients were labeled & treated as primary carcinoma of ovary.

Conclusion: CDX2 cannot be used as sole indicator of colon origin & panel of the markers should always be employed, and clinical as well as radiological features should also be considered during interpretation of IHC results.

027 P

THE UTILITY OF EUS-FNA IN DIAGNOSIS OF METASTASES TO THE PANCREAS.**MUHAMMAD ZAIN MEHDI, AASIM YUSUF, NOREEN AKHTER AND ASIF LOYA****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL & RESEARCH CENTRE, LAHORE,
PAKISTAN**

Purpose/Objective: The pancreas is a rare site for metastases. Renal cell carcinoma is one of the most common malignant tumors to metastasize to the pancreas. Most case series report a prolonged interval between initial presentation and discovery of metastases. Endoscopic ultrasound-guided fine needle aspiration (EUS-FNA) is a sensitive procedure for sampling pancreatic tumors requiring a tissue diagnosis. We present a case series of three known cases of renal cell carcinoma with subsequent metastasis to the pancreas.

Material/Methods: Three known cases of renal cell carcinoma, post-nephrectomy, presented with a mass in the pancreas. These were subjected to EUS-FNA. Rapid on-site evaluation (ROSE) was performed in all 3 cases and cell blocks were made.

Results: All three cases were male with a mean age of 61 years and a previous diagnosis of renal cell carcinoma, post-nephrectomy. The mean interval between initial diagnosis and the appearance of a lesion in the pancreas was 11 years. The mean size of the metastatic deposit was 42mm on EUS. Immunophenotyping showed positivity for PAX-8 and CD10 in all three tumors, confirming metastatic renal cell carcinoma.

Conclusion: EUS-FNA is a very sensitive procedure for tissue diagnosis of pancreatic tumors and can be used to confirm the presence of metastatic disease.

028 P

SELECTION OF DLT IN PATIENTS UNDERGOING FOR III-STAGE OESPHAGECTOMY**B.TUFAIL,A.W.KHAN****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL & RESEARCH CENTRE, LAHORE, PAKISTAN**

Purpose/Objective: In most major centers, lung isolation and OLV are considered the standard of care for transthoracic approaches to the esophagus and are essential for thoracoscopic esophageal surgery. Left-sided double lumen tubes (DLT) is most commonly employed for transthoracic esophageal surgery. An inappropriately sized DLT can cause airway trauma and interfere with oxygenation and lung separation during one-lung ventilation. Aim: The aim of this study was to determine the size of DLT according to patient gender, age, weight and height in SKMCH & RC Lahore

Material/Methods: This study was done in Shaukat Khanum memorial cancer hospital from June 2014 to July 2016(2 years period).Total 84 patients (n=84) of Ca esophagus(Squamous cell carcinoma and Adenocarcinoma) were included in this study who underwent 3 stage oesophagectomy. Retrospective data was collected from hospital MIS system and analyzed with following results.

Results: Among 84 cases, 38 patients were males and 46 patients were females. Among female population 54% patients of 32-67 years of age, 45-79 kilogram weight and 145-168 centimeter height were passed 35 Fr DLT, 37% patients of 32-67 years of age, 45-79 kilogram weight and 149-166 centimeter height were passed 37 Fr DLT, 7% patients of 32-61 years of age, 44-58 kilogram of weight and 146-160 centimeters of height were passed 32 Fr DLT and 2% patients of age 44, weight 65 kilogram and 157 centimeter of height were passed 39Fr DLT respectively. Among male population 47% patients of 32-75 years of age, 51-83 kilogram weight and 157-180 centimeter height were passed 39 Fr DLT, 39% patients of 29-62 years of age, 47-77 kg weight and 159-185 centimeter height were passed 37 Fr DLT, 8% patients of 52-66 years of age, 45-59 kilogram of weight and 153-175 centimeters of height were passed 35 Fr DLT and 5% patients of age 24-43, weight 50-65 kg and 159-183 centimeter of height were passed 41 Fr DLT respectively.

Conclusion: At SKMCH & RC for establishing one lung ventilation most of clinicians prefer DLT 35 Fr for adult females and DLT 39 Fr for adult males.

029 P

TO ESTIMATE THE POST OPERATIVE LENGTH OF STAY POST ESOPHAGECTOMY AT SKMCH**FR BUTT, B TUFAIL, AW KHAN****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL & RESEARCH CENTRE, LAHORE, PAKISTAN**

Purpose/Objective: Surgery remains the mainstay of treatment for patients with early or locally advanced esophageal cancer. Several studies have suggested that postoperative complications might exert a negative influence on the long-term survival of patients. In a recent study, prolonged Post-operative length of stay was significantly associated with reduced rates of overall survival.

Aim- The aim of the current study is to estimate the post operative Length of stay post esophagectomy at SKMCH

Material/Methods: 131 patients (n=131) of Ca oesophagous were included in the study who underwent oesophagectomy (III stage oesophagectomy and Transhiatal oesophagectomy) from June 2014 to July 2016 at Shaukat Khanum memorial cancer hospital and research center. Retrospective data was collected from hospital MIS system and analysed with following results.

Results: Among the 36 male patients undergoing III stage esophagectomy, 14(38%) patients went under GA for <7.5 hours with Average Length of stay of 12.144 days whereas 22(62%) patients went under GA for >7.5 hours with Average Length of stay of 11.85. Among the 30 male patients undergoing TransHiatal esophagectomy, 19(63.33%) patients went under GA for <7.5 hours with Average Length of stay of 12.27 whereas 11 went under GA for >7.5 hours with Average Length of stay of 12.20 days respectively.

Among the 46 female patients undergoing III stage esophagectomy, 23(50%) patients went under GA for <7.5 hours with an Average Length of stay of 11.82 days whereas 23(50%) patients went under GA for >7.5 hours with an average Length of stay of 11.97 days. Among the 19 female patients undergoing TransHiatal esophagectomy, 13(68.4%) went under GA for < 7.5 hours with an average Length of stay of 11.96 days whereas 6(31.6%) went under GA for > 7.5 hours with an average Length of stay of 11.77 days

The mean age for all the patients was 52.21 respectively.

Conclusion: The mean Length of stay for patients undergoing esophagectomy was 12 days.

030 P

METASTASIS OF ESOPHAGEAL CARCINOMA TO THE SITE OF PERCUTANEOUS ENDOSCOPIC GASTROSTOMY: CASE REPORT.**M. DANISH SARFRAZ, KHAIR MUHAMMAD, UNAIZA MASOOD, TOUQEER A SULEHRIA, HAFSA BABAR, IMRAN K.NIAZI, AMJAD IQBAL.****DEPARTMENT OF RADIOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

Purpose/Objective: Percutaneous endoscopic gastrostomy (PEG) is mainstay in providing enteral access for patients with obstructive oropharyngeal and esophageal tumors in most of the hospitals.¹ Percutaneous radiological gastrostomy (PRG) is an alternative to PEG with comparable outcomes in the literature. The aim of this report is to highlight one of the most gruesome complication of PEG i.e. tumor seeding.

Case findings: We present a case of 58 Year old female who presented to us with dysphagia to solids which was associated with frequent vomiting and rapid weight loss. Endoscopy was done and PEG tube was parked. Staging Pet CT performed which showed primary mid to lower esophageal tumor sparing the gastro-esophageal junction with no loco-regional adenopathy or visceral metastasis. PEG tube was seen in place. Patient received chemo and radiotherapy but then absconded for 6 months owing to visa issues and then returned, restaging CT scan was performed which showed soft tissue density along peg tube with re-demonstration of stable mid/distal esophageal residual circumferential mural thickening. Scan raised the suspicion of tumor seeding along PEG tube which was later confirmed with biopsy.

Because patients with advanced HNSCC are often chronically malnourished, enteral feeding must be considered as soon as swallowing dysfunction with significant. Because patients with advanced HNSCC are often chronically malnourished, enteral feeding must be considered as soon as swallowing dysfunction with significant

Conclusion: In comparison to other minor complications of PEG tube, seeding of tumor is of great concern. The average time from PEG to diagnosis of metastatic disease is 8 months³ however in our case its 10 months which is likely due to patients late return to clinic. Some reports have mentioned seeding rate upto 9.4%.⁴ Hence while reporting post-chemo and radiotherapy scans, radiologists should pay special attention to PEG tube site.

031 P

PATTERNS OF RECURRENCE AFTER CURATIVE RESECTION FOR GASTRO-OESOPHAGEAL JUNCTION CARCINOMA AT A SPECIALIST ONCOLOGIC CENTER**S BATOOL, R SAYYED, I ASHRAF, A RIAZ, U AHMAD, S KHATTAK, F HANIF, A ALI****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

Purpose/Objective: 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. Better imaging technology has enabled more accurate pre-operative staging of esophageal cancers resulting in judicious and more efficient selection of patients for curative resection. The survival of Despite these advances, survival of GOJC after curative resection stays low (30-40%). We aim to review the patterns of recurrence following surgical treatment of GOJC with curative intent at a specialist oncologic center.

Material/Methods: Medical records of patients with GOJC undergoing resection with curative intent between Sep 2009 and Sep 2016 were reviewed. Tumors 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 analyzed using IBM SPSS version 20.0.

Results: During the study period, a total of 193 patients under esophageal resections with curative intent. Of these there were 137 cases of GOJ adenocarcinoma. Median age was 54. Male to female distribution was 68 verses 38%. All patients received neoadjuvant therapy. Transhiatal esophagectomy was performed in 65 patients, Ivor-Lewis esophagectomy in 14 and three stage esophagectomy in 57 patients. 40% patients showed complete response

There were 21 patients who developed recurrence of which 4 had local recurrence, 14 distant metastases and 3 had both. Almost half of the recurrence were in liver(51%). The risk factor identified for local recurrence was positive resection margin and for distant metastasis was grade 3 tumour.

Conclusion: The incidence of recurrence following curative resection of GOJC is 32%. This high rate of recurrence suggests the need for careful selection of patients who will benefit from curative resection. Grade 3 tumour with poor response to neoadjuvant was associated with higher rate of recurrence after surgery.

032 P

PREDICTING FACTORS FOR RECURRENCE IN ESOPHAGEAL CANCER PATIENTS TREATED WITH NEO-ADJUVANT THERAPY AND SURGERY; A SINGLE INSTITUTION ANALYSIS.**KHAN M, SYED AA, KHATAK S, ASHRAF MI, UROOJ N, MUZAFFAR A****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

Purpose/Objective: Esophageal cancer is a complex disease with an overall 5 years survival rate after esophagectomy remains about 25% and disease free survival reaching upto 50 % at 2 years.

To evaluate and report the factors having an impact on overall disease free survival in our esophageal cancer patients managed with tri-modality treatment (neoadjuvant chemotherapy, radiation therapy and surgery).

Material/Methods: It is a retrospective study design. All patients with resectable esophageal cancer managed at our institute electively after multidisciplinary management plan of neo-adjuvant treatment followed by esophageal resection were evaluated from January 2005 till January 2014. All patients with a minimum 1 year follow-up period basic demographic, clinical, radiological and pathological disease related parameters were assessed through the HIS. Also patients with emergency esophagectomy and hence no neo-adjuvant treatment or histopathology other than adeno or squamous cell cancer were excluded. Also patients with a metastatic disease at presentation and before completion of treatment were excluded. The variables evaluated for a relationship with recurrence are tumor histological type, tumor grade, radiological initial and post neo-adjuvant pathological TNM(tumor, node, metastasis) stage, pathological nodal index, completeness of margin status, type and duration of neo-adjuvant modality, type of surgical procedure done and duration between the completion of neo-adjuvant treatment and surgical procedure performed. The primary end point is tumor recurrence and disease free survival and impact of above mentioned factors on these two parameters. Patients will be further segregated into those with complete pathological response and those with partial response to look for any variation in prognostic factors.

Results: Correlations are established with chi-square test for categorical and student t test for continuous variables. Cox-regression model was used to evaluate various prognostic factors for any significant impact on disease free survival and tumor stage and tumor grade were found to be the only significant independent factors. On Kaplan-Meier survival curve analysis disease free survival was better for stage to stage and with lower tumor grade($p < 0.05$). Multivariate analysis was done for significant factors for risk of recurrence, controlling all other variables in the study and found stage of the locoregional disease as predictors of recurrence ($p = 0.03$).

Conclusion:

033 P

DAY 4 CHEST DRAIN OUTPUT IS AN EARLY PREDICTOR OF CHYLE LEAK AFTER ESOPHAGECTOMY**S BATOOL, SANA, R HASNAIN, O SHAKEEL, F HANIF, S KHATTAK, A ALI****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

Purpose/Objective: 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.

Material/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, chest drain retained for more than 10 days, drain output more than 1000 ml on or beyond day 4 and chylothorax found on re-exploration. Clinical features, operative findings and postoperative variables were recorded and predictors of chyle leak were analyzed. Statistical Analysis was performed using Categorical variables were analyzed by chi square and numerical variables by Mann-Whitney U test.

Results: During the study period, a total of 193 adult patients underwent esophagectomy. The mean age was 52 years (SD±10) with 118 males and 74 females. Neoadjuvant therapy was administered to 187 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 20 (10.3%) patients based on the study criteria. There was no significant association of chyle leak with age (p=0.2), gender (p=0.65), co-morbidities (p=0.6), level of tumor (p=0.3), neoadjuvant therapy (p=0.9) and type of esophagectomy (p=0.5). Chest drain output on postoperative day 4 was significantly predictive of chyle leak on ROC curve with AUC of 0.793 (95%CI 0.648-0.937). Day 4 chest drain output of >350 ml was significantly associated with chyle leak (p < 0.001) with specificity of 95.5%.

Conclusion: In our institutional experience, the incidence of chyle leak based on the described parameters was 10.3%. No significant preoperative risk factors could be identified for chyle leak. Chest drain output of >350 ml on postoperative day 4 was found to be a significant predictor of chyle leak.

034 O

CERVICAL ESOPHAGOGASTRIC ANASTOMOTIC LEAK FOLLOWING ESOPHAGECTOMY:**MUHAMMAD IJAZ ASHRAF, SADAF BATOOL, USAMA SHAKEEL, IRFAN UL ISLAM NASIR , RAZA SAYYED, SHAHID KHATTAK, AAMIR ALI SYED****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

Purpose/Objective: Surgical resection is the mainstay management for esophageal cancer. It is a challenging procedure with considerable morbidity and mortality. The most important complication is anastomotic leak. Cervical anastomosis has higher leak rate (10-20%) as compared to thoracic anastomosis (5-10%). We conducted this study to see the actual percentage of this complication in our population and their management.

Material/Methods: All patients who underwent esophagectomy either 3 stage or transhiatal between August 2015 to August 2016 were included. Patients who had anastomotic leak were reviewed; their clinical features, radiological studies and their management undertaken were recorded. All the data was analysed on SPSS 20.

Results: Total 89 patients had esophagectomy (63 underwent 3-stage, 26 underwent transhiatal esophagectomy). The incidence for anastomotic leak was 7.8% (7/89 patients). Anastomotic leaks were detected on an average on 5th post-operative day. Emergency reoperation, resection and re anastomosis performed in 2 patients. One patient had conduit necrosis and colonic interposition was done. In one patient gastrostomy with cervical esophagostomy performed. Remaining 3 patients were managed with neck wound re-exploration, wound wash and NJ feeding. Only one patient expired due to severe sepsis.

Conclusion: Although esophagogastric leak is a dreadful complication but with early detection and proper management, this complication can be treated effectively.

35 O

ANALYSIS OF PROGNOSTIC FACTORS INFLUENCING SURVIVAL IN ESOPHAGEAL CANCER AND TRIMODALITY TREATMENT (TMT) FOR LOCALLY ADVANCED DISEASE IN PAKISTAN.**AZKA ATHAR,****SIR GANGA RAM HOSPITAL LAHORE**

Purpose/Objective: Patients with locally advanced esophageal cancer have poor prognosis. TMT is being used with increased frequency for locally advanced esophageal cancer. In this study, we investigate the prognostic factors influencing survival in patients with locally advanced esophageal cancer following TMT.

Material/Methods: The study included 50 patients with esophageal carcinoma treated between December 2012 and December 2015 at Sheikh Zayed Hospital Lahore and INMOL Hospital Lahore. Median age was 45 years (range 25 - 68). There were 70% males and 30% females. All patients had EGD with biopsy and CT chest. 60% had squamous cell carcinoma and 40% patients had adenocarcinoma. 25% had tumor in the middle third and 75% had lower/gastro esophageal lesions. Preoperative radiation consisted of 50.4 Gy / 28 fractions with concomitant chemotherapy day 1 and 29 (Cisplatin 75 mg/m² day 1 and infusional 5FU re1000 mg/m² day 1–5). Esophagectomy was done at 6 - 12 weeks following chemo radiation. The pathologic down-staging was evaluated by the 5-score tumor regression grade (TRG) of Mandard.

Results: Post TMT pathologic TNM stage was; Stage 0 in 30% patients, stage II in 20% patients and stage III in 40% patients. 60% patients had R0 and 40% had R1 resection. The 4-year disease free survival was 30% with a median survival of 20 months. Age (< 50 vs 50 years), sex, hemoglobin at presentation (< 12 vs > 12 gm/dl), tumor site (middle vs lower/GE junction), pathological nodal status (node positive vs node negative) and histological subtype (squamous cell vs adenocarcinoma) did not influence survival (p= 0.92, p= 0.82, p= 0.69, p= 0.79, p= 0.41 and p= 0.32 respectively).

Conclusion: MT results in prolonged disease free survival in patients with complete response or microscopic residual foci (TGR 1-2). TMT can help in better prognosis of patients with advanced esophageal cancer.

36 O

PATTERNS OF HEPATIC ARTERIAL ANATOMY BASED ON CONTRAST ENHANCED CT SCAN IN A LARGE POPULATION SUBSET

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Purpose/Objective: Distribution of arterial vascular anatomy has been described as having a prevailing pattern and frequent anomalies reported to be present in ~20-50% of cases in different datasets. Variant hepatic arterial anatomy can have implications for surgical as well as interventional radiology procedures involving the hepatopancreatobiliary tree. We report patterns of hepatic arterial distribution in our population based on contrast enhanced CT scan in a large subset of patients.

Material/Methods: Contrast enhanced CT scans with biphasic or triphasic study of liver vasculature performed between 2013 and 2016 were reviewed. Hepatic arterial distribution was classified using Hiatt classification.

Results: A total of 737 CT scans were reviewed. These were performed for various reasons including vascular anatomy for liver donor, staging of Pancreatobiliary malignancies and assessment/follow-up of liver lesions in patients with chronic liver disease. Normal Hepatic arterial anatomy (Hiatt type1) was seen in 469(63.6%) cases. The most common variation was left hepatic artery (LHA) arising from left gastric artery (Hiatt type2) that was seen in 109(14.8%) cases. Aberrant Right Hepatic Artery (RHA) arising from Superior Mesenteric Artery (SMA) (Hiatt type3) was seen in 92(12.5%) cases. The overall distribution of anomalies is mentioned in Table 1.

Conclusion: Variations in hepatic arterial anatomy is present in 36.4% cases in this study of 737 contrast enhanced CT scans. This warrants a careful assessment of hepatic vascular anatomy to avoid any complications during surgery or interventional radiology procedures.

Table 1- Hepatic artery aberrations according to Hiatt classification

	Vascular Anatomy	Hiatt Classification	Frequency	Percentage
1.	Normal	Type 1	469	63.6%
2.	Aberrant LHA from LGA	Type 2	109	14.8%
3.	Aberrant RHA from SMA	Type 3	92	12.5%
4.	Aberrant RHA + Aberrant LHA	Type 4	47	6.4%
5.	CHA from SMA	Type 5	17	2.3%
6.	CHA from Aorta	Type 6	3	0.4%

037 P

SALVAGE HEPATECTOMY FOR VASCULAR INVASIVE COLORECTAL LIVER METASTASES RECURRENCE AFTER STEREOTACTIC BODY RADIATION THERAPY**ALBASH SARWAR, ATTA ULLAH, HASAN ALI, FAISAL HANIF****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

Purpose/Objective: We present a case in which a patient developed recurrence after Stereotactic Body Radiation Therapy for liver metastases of colorectal carcinoma. The recurrence involved the diaphragm, right hepatic vein, and middle hepatic vein..

Case report: A 41 year old female underwent curative low anterior resection with covering ileostomy followed by ileostomy reversal 6 months later for a T3N2 recto-sigmoid tumor. Follow up CEA levels were raised at 18 months after the primary surgery. Following PET CT revealed liver metastasis in segment 7 of liver. Stereotactic Body Radiation Therapy was given at 45 Gy in 3 fractions resulting in complete remission of the liver metastasis. Follow up CT 17 months later showed local recurrence in the previously ablated segment 7 liver bed closely applied to the diaphragm, abutting IVC and involving the segmental branch of the posterior right sectoral portal vein. Right Hemi-hepatectomy, resection of the involved part of diaphragm, and segmental resection of middle hepatic vein was carried out. Histopathology confirmed a 3.5 cm metastatic adenocarcinoma in the right lobe of the liver, involving the diaphragm, with vascular invasion. All resection margins were free of tumor. In view of high risk of systemic relapse, chemotherapy with capecitabine and oxaliplatin is being given.

Conclusion: Resection of liver metastases is the mainstay of treatment for colorectal carcinoma patients with liver metastases. Although radiofrequency ablation and stereotactic body radiation therapy are occasionally used for treatment of liver metastases in colorectal carcinoma, they show a high risk of recurrence.

038 P

CASE REPORT: LAPAROSCOPIC RESECTION OF LIVER SARCOMA**MUHAMMAD ZAKRIA WAHLA, CHEE-CHIEN YONG, CHAO-LONG CHEN, CHIH-CHI WANG,****LIVER TRANSPLANT CENTER, KAOHSIUNG CHANG GUNG MEMORIAL HOSPITAL, TAIWAN**

Purpose/Objective: Sarcoma are rare malignant tumors arising from mesenchymal cells exhibiting heterogeneous histological patterns. In the liver, these tumors represent only 0.1% to 2% of primary hepatic cancer. Sometimes secondary metastatic tumors may spread to liver. Patients with primary hepatic sarcomas benefit from resection, with possible long-term cure. Usually hepatic resection is done by open technique but now there are more trends towards laparoscopic liver resection with its all benefits of minimal access surgery.

In our case report we came across Primary liver sarcoma which was operated laparoscopically. Probably not so many cases of liver sarcoma were operated before through minimal access surgery.

Case report: A 59 years old woman non B, non C had periumbilical discomfort for last 3 months. She had body weight loss (dropped from 60 to 58 kg in 2 months) and anorexia. She was hypertensive but controlled on Chinese herbs. She was operated for complete Lt. Thyroidectomy in 2010. She had normal liver functions test and blood complete. CT with contrast showing malignant tumor 4cm, S2. Two lymph nodes were also noted, retroperitoneal but were found out to be negative for malignant change. AFP, CEA, CA19-9 were within the normal range. AJCC STAGE 1(T1N0M0), BCLC STAGE A, EARLY STAGE. Left lateral hepatectomy (S2and S3) was performed by laparoscopy using 4 ports. Portal triad was divided with Echelon flex 60 3.5mm. the left hepatic vein with Echelon flex 60 2.5mm, incomplete then apply Hemolock and divided. Specimen extracted from 7 cm pfannenstiel incision. Duration of surgery was 150 minutes. Tumor margins were 40mm cleared from tumor.CVP was removed on 3rd post-operative day. The result of the immunohistochemical study was consistent with an inflammatory Pseudo-Tumor-Like variant of Follicular Dendritic Cell Sarcoma. Postoperative care was done accordingly. There was uneventful recovery. Patient was discharged on 5th Post-operative day.

Conclusion: In previous studies all hepatic sarcoma were operated by open surgery but like any HCC that fulfils the criteria of laparoscopic hepatectomy, liver sarcoma can be resected. On face of it, it looks promising but more research on this is recommended.

039 P

RISK FACTORS FOR BLOOD LOSS IN LIVER RESECTION: AN INSTITUTIONAL REVIEW

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

Material/Methods: A retrospective study carried out on 40 patients that underwent liver resection for primary or metastatic liver lesions in the department of surgical oncology Hepatobiliary unit SKMH Lahore between October 2014 till September 2016. The data collected on each patient included 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 tumor size less than or more than 4cm, major hepatectomy if 3 or more segments resected, hepatic vein or portal vein involvement, tumor with central location, pringle technique, portal venous pressure and tumor pathology such as metastatic colorectal carcinoma, HCC, hepatoblastoma, GB carcinoma. Data analyzed on SPSS and results calculated in percentages. Subgroups cirrhotic and non-cirrhotic patients also analyzed on SPSS and results compared.

Results: Out of 40 patients selected for study 17 (42.5%) were male and 23(57.5%) were female. Three patients (7.5%) had major hepatectomy. Nine patients (22.5%) had tumor size less than 4 cm and 31 patients (77.5%) had tumor size more than 4cm. 19 patients (47.5%) had colorectal metastasis, 9 patients (22.5%) had HCC, 8patients (20%) had GB carcinoma and 4 patients (10%) had hepatoblastoma. During surgery 19 patients (47.5%) had pringle time less than 20 minutes and 21 patients (52.5%) more than 20 minutes. 16 patients (40%) out of 40 had chemotherapy preoperatively. 19 patients (47.5%) had blood loss less than 500ml and 21 patients (52.5%) had blood loss more than 500ml. 21 patients (52.5%) operated in less than 6hrs time and 19 patients (47.5%) took more than 6 hrs. In 16 patients (40%) CAUSA used as resection device while in 18 patients (45%) ensel and in 6 patients (15%) stapler used for resection. Mean blood loss was 581.25ml while mean operative time was 441.5 minutes. In sub group analysis out of 9 cirrhotic patients 6 (66.7%) were male and 3 (33.3%) were female. In one patient (11.1%) major hepatectomy done. 2 patients (22.2%) had less than 20 minutes for pringle technique and 7 patients (77.8%) had more than 20 minutes. In one patient (11.1%) CAUSA used as energy device while in 7 patients (77.8%) Ensel and in one patient (11.1%) staplers were used. Mean blood loss was 861.1 ml in cirrhotic group patients and operative time was 376.6 minutes. Out of 31 non cirrhotic patients 11 (35.5%) were male and 20 (64.5%) were female. Two patients (6.5%) had major hepatectomy done. 6 patients (19.4%) tumor size is more than 4cm and in 25 patients (80.6%) it was less than 4 cm. 19 patients (61.3%) had metastatic colorectal carcinoma, 8 patients (25.8%) had GB carcinoma and 4 patients (12.9%) had hepatoblastoma. 17 patients (54.8%) had pringle technique time less than 20 minutes and 14 patients (45.2%) had more than 20 minutes. Out of 31 patients 16 patients (51.6%) had pre-operative chemotherapy. In 15 patients (48.4%) CAUSA used as energy device while in 11 patients (35.5%) Ensel and in 5 patients (16.1%) staplers were used. Mean blood loss in non-cirrhotic patients was 500.0 ml while mean operative time was 460.32 minutes.

Conclusion: In cirrhotic patients mean blood loss and operative time was higher as compare to non cirrhotic patients. Thus concluded that cirrhosis is one of the risk factors for per operative blood loss in liver resection surgeries.

040 P

LEFT EXTENDED TRISECTIONECTOMY INCLUDING SEGMENT 7 AND SACRIFICING ALL HEPATIC VEINS IMPORTANCE OF RIGHT INFERIOR HEPATIC VEIN AND ITS APPLICATION**MUHAMMAD ZAKRIA WAHLA, CHOON HYUCK DAVID KWON,****SAMSUNG MEDICAL CENTER, SEOUL, SOUTH KOREA.**

Purpose/Objective: Among the accessory hepatic veins, the thickest one is the IRHV and is a significant vessel in 20 to 24 per cent of the patients (1). In our case report we came across with hepatic lesion involving almost all of the liver except a small portion. We ligated all the three hepatic veins (Right, middle and left) and remnant liver survived without any congestion during the surgery as well as routine computed tomography scan. Our case is quite unique and rare in the history of liver resection.

Case report: Patient was a 43 years old lady who presented with the complaint of pain in the upper abdomen. On examination, a mass was palpable in epigastric region. Her laboratory investigations were showing some derangement in liver enzymes (AST/ALT 200/40) ICG 7.5%. She was non cirrhotic, non Hepatitis B and C. Her CT scan shows about 20 cm tumor involving the Left and Right Lobe of liver except segment 6. It was a Giant Hemangioma possibly arising from the caudate lobe. She underwent extended left trisectionectomy preserving segment 6 only. There was no any liver colour change at the end of the surgery. Patient remained stable till discharge and is in contact with the hospital for her routine follow up.

Conclusion: IRHV often drains the S5, 6 or 7. If there is any tumor at S7, 8 close to the RHV, surgeon should think about IRHV.. Since both the S5, 6 will probably drain through the IRHV so sacrificing the RHV should not be a main problem.

The operator should always keep in mind, the outflow as well as the inflow of the liver. Often we only evaluate the main Portal and Hepatic veins and do not consider the importance of other minor veins. More research on this topic is recommended.

041 P

HEPATIC ARTERIAL SYSTEM ANOMALIES ENCOUNTERED DURING PANCREATICODUODENECTOMY - MANAGEMENT APPROACH AT SPECIALIST HEPATOBILIARY ONCOLOGIC CENTRE.

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Purpose/Objective: Aberrant hepatic arterial anomalies (AHAA) are commonly encountered and constitute a challenging problem during pancreaticoduodenectomy (PD). AHAA should ideally be identified on preoperative imaging to avoid inadvertent injury which may result in liver ischemia or biliary-enteric anastomotic failure. We present incidence and management of AHAA encountered during PD at a specialist oncological center.

Material/Methods: Patients undergoing PD between December 2014 and June 2016 were included. Preoperative imaging and operative findings of these patients were reviewed to evaluate the hepatic arterial anatomy. Aberrations were classified according to Hiatt classification.

Results: Since December 2014, 50 PD were performed with AHAA identified in 22(44%) cases. The most common anomaly was a replaced right hepatic artery (rRHA) arising from the superior mesenteric artery (SMA) present in 7(14%) patients. Artery first technique was used for in preoperatively identified cases of AHAA. Aberrant vessels were preserved in 21 cases. In one patient, rRHA arising from SMA was coursing through pancreatic parenchyma needing resection and reconstruction with uneventful postoperative recovery. There were three variations in origin of right hepatic artery not described in Hiatt's classification in 5(10%) patients.

Conclusion: AHAA are common and should ideally be picked up by preoperative imaging. It is possible to preserve these vessels in most cases with careful surgical dissection. Surgeons performing pancreaticoduodenectomy should be well versed in management of AHAA in order to minimize any inadvertent damage.

042 P

UNUSUAL PRESENTATION OF A RARE DISEASE. PRIMARY HEPATIC NEUROENDOCRINE TUMOUR**MUHAMMAD KASHIF KHAN, INAYAT ULLAH BAIG, MIRZA TASSAWAR HUSSAIN, SYED SHAMSUDDIN, HIRA IJAZ, SHABBIR HUSSAIN****FEDERAL GOVT POLYCLINIC (PGMI) ISLAMABAD, PAKISTAN**

Purpose/Objective: Primary hepatic neuroendocrine tumours are an extremely rare entity with only 200 cases reported so far. We present an interesting and unusual presentation of a patient with Hepatic mass which was diagnosed as primary hepatic neuroendocrine tumor only after standard Right hemi hepatectomy.

Material/Methods: 55 years old lady presented with fall six months ago after which she noticed a swelling in right upper abdomen. It rapidly progressed in size and occupied whole of right hemi abdomen at presentation. She was referred to us with diagnosis of huge liver cyst after CT scan at Gilgit. Tumor marker levels were normal. Triphasic CT performed here revealed a giant hemangioma of the liver occupying the segments 5,6,7 and 8 of the liver. Further discussion with radiologist at MDT and correlation with the history it was concluded that the giant hemangioma is already ruptured but still contained by the capsule of the liver.

Standard right hemihepatectomy was performed using roof top incision. No other pathology was found at the time of laparotomy. The patient had an uneventful recovery and was discharged on the 8th post day. The final histopath revealed primary neuroendocrine tumor grade II of the liver after detailed immunohistochemistry. A CT scan of chest abdomen and pelvis was performed which revealed no other abnormality. Since resection margins were tumor free so adjuvant treatment was not offered.

Results: Reaching a preoperative diagnosis of primary hepatic neuroendocrine tumor is difficult but it should be kept in the differentials.

Conclusion: This disease is so rare that there is no TNM classification for these tumours. The prognosis and appropriate treatment is also not known. Individualised treatment decided at MDT is the way forward. These cases will present in small numbers at different institutes, analysis based on case reports and case series will help us determine the best management protocol for this disease.

044 P

SURGICAL MANAGEMENT OF GALL BLADDER CANCER- OUR EXPERIENCE**MUHAMMAD ATTAULLAH KHAN, MUHAMMAD SHADAB KHAN, IRFAN UL ISLAM NASIR,
MUHAMMAD FAHD SHAH, ALBASH SARWAR, FAISAL HANIF****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE.
PAKISTAN**

Purpose/Objective: Carcinoma gall bladder is a rare but aggressive tumor. Surgery is the treatment of choice for gall bladder cancer. Survival of patient with gall bladder cancer depends on the tumor stage and R0 resection. We present our experience of patients undergoing radical or completion surgery for carcinoma gall bladder in our institution.

Material/Methods: The medical record of all patients was reviewed that were operated for gall bladder cancer in Shaukat Khanam memorial cancer hospital and research center Lahore, during Nov 2014 and Sept 2016. Data was collected regarding patient age, gender, initial diagnosis, tumor stage, procedure performed during completion surgery, resection margins clearance, lymph node status, post operative complications, disease recurrence and follow up of the patients.

Results: Mean age of the patients was (48.4 +/- 11 years). Eight patients (80%) were female and 2(20%) males. Eight patients (80%) had initial cholecystectomy done outside the hospital and then referred for completion surgery while 2 patients (20%) were operated in the hospital after their pre-op scans showed gall bladder mass suspicious of carcinoma gall bladder. In patients referred for completion surgery, tumor stage was pT2NxMx in 6 patients (60%) while 1 patient (10%) had pT3NxMx and one patient (10%) had pT2N1Mx tumor on histopathology. Completion surgery involving liver segment 4 and 5 resection with lymphadenectomy was done in 7 patients (70%). CBD resection with hepaticojejunostomy was done in one patient (10%) along with liver resection, while only lymphadenectomy was performed in one patient (10%). In one patient (10%) only excisional biopsy was taken from gall bladder bed on completion surgery. Two patients had positive lymph nodes for metastatic cancer of the gall bladder. No recurrence was noted during the study duration in patients with pT2 tumor while one patient with pT3 tumor had recurrence of the disease after 11 months of the completion surgery. Post op complications were seen in 2 patients (20%). One patient had surgical site infection and the other had bile leak that settled conservatively. All patients are alive except one who list follow up after 3 months of her surgery.

Conclusion: Carcinoma gall bladder has good prognosis if treated at early stages with radical cholecystectomy or radical completion surgery after incidental gall bladder cancer findings on histopathology of cholecystectomy specimen. We recommend that all patients with gall bladder mass or proven gall bladder cancer should be referred to specialist hepatobiliary centers.

045 P

ROLE OF STAGING LAPAROSCOPY IN PATIENTS UNDERGOING PANCREATODUODENECTOMY**NAMRA UROOJ, MUHAMMAD IJAZ ASHRAF, RAZA SAYYED, AAMIR ALI SYED, FAISAL HANIF****SURGICAL ONCOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

Purpose/Objective: Staging laparoscopy helps detecting small volume liver and peritoneal metastatic disease not picked up on standard imaging in patients planned for pancreaticoduodenectomy with curative intent. Identifying this subset of patients can help prevent unnecessary laparotomy, especially with advancement in endoscopic palliation techniques. We aim to evaluate the role of staging laparoscopy in patients undergoing pancreaticoduodenectomy for pancreatic/periampullary tumors at our institution.

Material/Methods: All patients planned for pancreaticoduodenectomy who underwent staging laparoscopy between September 2014 and August 2015 were included. Findings at laparoscopy and whether a change in management plan occurred was recorded.

Results: Between September 2014 and August 2015, a total of 20 patients underwent staging laparoscopy before pancreaticoduodenectomy. Of these, 5 patients were found to have liver lesions and 2 patients had peritoneal nodules. Among patients with liver lesions, 1 patient had metastatic pancreatic adenocarcinoma, one had metastatic neuroendocrine tumour, while the other three had benign lesions on histopathology. Both the patients with peritoneal nodules turned out to have benign lesions on histopathology of these nodules. Management plan was changed in two patients due to staging laparoscopy. One patient was planned for curative resection but liver lesions consistent with metastatic pancreatic carcinoma were found making him irresectable. The other patient was previously known to have a liver lesion the biopsy of which showed a neuroendocrine tumour thus making him potentially resectable.

Conclusion: Staging laparoscopy is a useful investigation for patients planned for pancreaticoduodenectomy with curative intent as it helps to detect small volume peritoneal and liver metastatic disease. If any liver or peritoneal lesions are encountered, biopsy is useful in differentiating benign lesions from metastatic disease.

046 P

VASCULAR RESECTION AND RECONSTRUCTION IN PATIENTS WITH PD,CASE SERIES OF FOUR PATIENTS,OUR INSTITUTIONAL REVIEW**SADAF BATOOL****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE**

Purpose/Objective: SMV and PV involvement by pancreatic adenocarcinoma was previously considered to be relative contraindication for PD due to high morbidity and mortality. Recent trails have shown that it can be performed with similar rates of peri-operative morbidity and similar overall survival.

Material/Methods: We retrieved the date from medial record of 20 patients who presented with pancreatic adenocarcinoma from Sept 2014 to Sept 2016.Sixteen patient underwent bypass procedure,2 had PD and one patient had subtotal pancreatectomy and one underwent distal pancreatectomy. Patients demographics, pre-operative CT findings, operative findings and post-operative morbidity and mortality were reviewed.

Results: First case was a 33 year old female with CT findings of distal pancreatic cyst with thrombosis of splenic vein without any vacular involvement. She underwent distal pancreatectomy with splenectomy and PV repair. Intraoperatively tumour was involving junction of PV and splenic vein. Post operative recovery was uneventful.

Second was a 72 year hypertensive male known case of pancreatic neck adenocarcinoma without vessel involvement on CT scan. Subtotal pancreatectomy with splenectomy was done along with PV reconstruction via splenic vein graft. Intraoperatively portal and splenic vein junction was involved by tumour. Post operatively he developed epigastric collection which was managed by radiological placed drain.

Third case was a 51 year male hypertensive whose CT showed pancreatic head carcinoma without vascular involvement. He had PD with PV and RHA reconstruction. Intraoperatively tumour was involving posterior wall of PV,RHA and origin of SMA with R2 resection. Post operatively he was admitted twice with upper GI bleed which was managed conservatively.

Fourth case was a 77 year male who presented with cystic mass in head of pancreas inseperable from PV and SMA. PD with PV reconstruction was done. Intraoperatively pancreatic head tumour was involving PV with a nodal mass around SMA.PV was repaired with end to end anastomosis.Post operatively he developed pancreatitis with AKI and chylous fistula which was managed conservatively.

Conclusion: Portal vein involvement per se is not a contraindication of pancreatic surgery .PV repair and reconstruction and hapatic artery repair can be done with similar rates of morbidity and mortality

Abbreviation: PV=portal vein ,SMA=superior mesenteric artery ,RHA= right hepatic artery, PD=pancreaticoduodenectomy, PG=pancreaticogastreotomy

047 P

IMPACT OF DIFFERENT TREATMENT MODALITIES ON OVERALL OUTCOME OF PANCREATIC CANCER**KHAN M, ASHRAF IM, SYED AA ,HANIF F.****DEPARTMENT OF SURGERY ONCOLOGY , SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE. PAKISTAN**

Purpose/Objective: Pancreatic cancer is a malignancy associated with a higher initial stage at presentation and poor prognosis in terms of overall survival. The objective of present study is to analyze overall survival patterns in our patient population with pancreatic cancer managed by different treatment modalities.

Material/Methods: We retrospectively reviewed the data of all of our pancreatic and peri-ampullary cancer patients from January 2000 till February 2015, via our hospital information system after a formal approval by the hospital ethics committee and institutional review board. Patients with tumor other than adenocarcinoma and patients without a histopathologic diagnosis made at our hospital laboratory are excluded from the study. Also the patients with an incomplete medical record for all the variables in the study are excluded. The main outcome measure is overall survival in months from the date of diagnosis. All results are segregated and analyzed according to the intervention modality used i.e. surgery with curative intent, Chemotherapy or Palliative management. Also the results are controlled for the confounding variables including stage of disease at initial presentation, histological tumor grade and tumor location, age, gender and significant co-morbid conditions.

Results: Out of 197 patients fulfilling the inclusion criteria, 21 were excluded from final analysis of survival outcome due to inability to establish a contact and hence were labeled as lost to follow-up cases. The survival analysis curve is shown in figure-1 with more than 50 percent of patients being confirmed dead in the first two years. The subset analysis on Cox-regression survival plot showed inferior survival with advancing stage of the disease and a treatment less than definitive surgical resection (Figure 2 and 3). On Cox- Proportional regression analysis stage of the disease and main treatment modality were only independent predictive factors for overall survival ($p < 0.01$). Age, tumor grade, location and presence of co-morbs had no significant impact on overall survival.

Conclusion: Stage for stage surgery with curative intent or chemotherapy have shown a trend towards improved survival as compared to palliative management alone, the results are more significant for surgical resection arm.

049 P

SEROUS CYSTADENOMA OF PANCREAS; A CLINICOPATHOLOGIC EXPERIENCE OF 23 CASES FROM A MAJOR TERTIARY CARE CENTRE IN PAKISTAN**MUHAMMAD USMAN TARIQ****AGA KHAN UNIVERSITY HOSPITAL, KARACHI, PAKISTAN.**

Purpose/Objective: Serous Cystadenomas (SCs) of pancreas are rare benign epithelial neoplasms which predominantly involve pancreatic body and tail of elderly females. Majority of these tumors have microcystic appearance. Macrocystic and solid variant have also been described. A number of other cystic pancreatic lesions with possible poor outcome are included in their differential diagnosis. Distinction from other cystic lesions is important for adequate treatment.

Our aim was to study the clinical and histological features of SCs with emphasis on features which are helpful in establishing its diagnosis.

Material/Methods: We reviewed 23 cases of SCs diagnosed in our institution between January 2001 and August 2016.

Results: Mean age at presentation was 53.43.76 years. Male to female ratio was 1:4.75. Majority (56.5%) of the cases were incidentally diagnosed. Abdominal pain was the most common symptom. Body and tail (either alone or in combination) were the most common tumor sites. Tumor size ranged from 2 to 16 cm. Central scar was seen in 43.4% cases. Two cases were unilocular (macrocystic). Microscopically, all of the cases showed simple cuboidal to flattened cells with round, uniform nuclei and glycogen rich clear cytoplasm. Focal micropapillae formation was also seen in 8 (34.7%) cases. Surgical resection was done in 81.8% cases. Recurrence was seen in a single case. Metastasis was not observed.

Conclusion: Pancreatic SCs are benign neoplasms with excellent prognosis. The tumors exhibit typical morphological features in all cases. Knowledge of the features helps in reaching the correct diagnosis.

050 P

ONCOLOGICAL OUTCOMES OF COLON CARCINOMA: 10 YEAR EXPERIENCE FROM A LOW INCOME COUNTRY.**IRFAN UL ISLAM NASIR, MUHAMMAD FAHD SHAH, MUHAMMAD IJAZ ASHRAF, AWAIS AMJAD MALIK, ABDUL WAHID ANWER, SHAHID KHATTAK, AAMIR ALI SYED****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE. PAKISTAN**

Purpose/Objective: Colorectal cancer is ranked second in cancer related deaths in United States and Europe, and is the third most common epithelial malignant tumor of human body. Total mesorectal excision (TME) has been institutionalized worldwide and was first applied by Heald. We conducted this study to see the oncological outcomes of carcinoma colon managed at our hospital.

Material/Methods: Medical records of all the patients who presented to Shaukat Khanum Hospital from Jan 2006 to Dec 2015 with colon tumor and who underwent surgery were analysed of any age, either gender were included in this study. Their demographic, clinicopathological features, operative information and outcomes were recorded on a pre-designed proforma and were analysed. Primary end point was 5 year overall survival (OS).

Results: In total of 244 patients, male to female ratio was 2.25:1, most of the patients were above the age of 45 years (66.4%). The most common presenting symptom was per rectal bleeding (27.5%) followed by altered bowel habits (23.8%) and pain (22.5%). Right (43.8%) and left side (44.3%) of the colon were equally involved. Almost half of them were performed laparoscopically (44.2%) and half open (48%) and conversion rate to open surgery was only 7.8%. Right hemi and extended right hemi was the most commonly performed procedure (54.5%) followed by sigmoid colectomy (21.3%) and left hemicolectomy (9%). Adjuvant therapy was offered to 128 patients (52.5%), as majority of the patients were T3 (63.1%) followed by T4 (18.9%) and near to half were node positive (41%) with an overall 5 year survival rate of more than 60%.

Conclusion: Advance disease and late presentation is very common in this part of the world with lack of any screening programme, the overall survival can be improved by implementing a proper screening programme on national level.

051 P

PATTERN OF PRESENTATION OF COLORECTAL CANCER IN PAKISTANI POPULATION- INSTITUTION BASED STUDY FROM 2008 TO 2014**FAYAZ HUSSIAN MANGI¹, BINAFA SHA MANZOOR SYED², JAWAID NAEEM QURESHI³, IKRAM UD DIN UJJAN⁴, NAEEM AHMED LAGHARI¹****¹NUCLEAR INSTITUTE OF MEDICINE AND RADIOTHERAPY JAMSHORO,**

Purpose/Objective: Cancer incidence is at rise in Pakistan, among them breast and colorectal cancer are noteworthy. However there is scarce data stating the pattern of presentation of colorectal cancer. This study aimed to assess the pattern of presentation in relation to age and gender in Pakistani Population.

Material/Methods: During the period of seven years (January 2008 to January 2014) prospectively collected institutional data was retrieved. All patients presented with colorectal cancers were included. Out of 15906 patients of all cancers registered during the study period, 517(3.3%) patients were of colorectal cancer. The colorectal cancer includes the cancer from ascending, transverse, descending, sigmoid colon and rectum. The cancers from upper area of anal canal abutting rectum were also included. The data was analyzed using SPSS 21.0.

Results: There was a male predominance (Male= N=329, 63.6%, and female N=188, 36.4%). Carcinoma rectum was the commonest site (47.6%) followed by ascending colon (25.7%), anal canal (13.7%), sigmoid colon (9.5%) and a small number presented with transverse (1.9%) and descending colon (1.5%). There was female predominance seen in the ascending, descending and sigmoid colon.

75% patients were aged between 20-60 years, however the youngest patient was 10 years old and oldest was 85 years. Median age of presentation among females was 49 years while for males it was 45 years.

Conclusion: The results of our data suggest that the colorectal cancer occurs predominantly in males and at younger age. The rectal cancer is the most common site of occurrence. The age pattern is in contrast to the western world, which warrants further biological analysis of the tumors to highlight the molecular pattern in order to make national management guidelines.

052 P

‘MAKE YOUR OWN LAPAROSCOPIC SIMULATOR’ - RESULTS FROM A COMPETITION HELD FOR SURGICAL RESIDENTS IN A LIMITED RESOURCES COUNTRY.**AWAIS A MALIK¹, RUQAYYA KHAN², SUMARIA SADDIQUE², HUMA S KHAN², SAMIULLAH BHATTI², KASHIF MALIK², SAIRA TAYYAB², AMIN MAZHAR², MAHMOOD AYYAZ²,****1 SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL & RESEARCH CENTER, 2 SERVICES INSTITUTE OF MEDICAL SCIENCES. LAHOR. PAKISTAN**

Purpose/Objective: To share the various designs of laparoscopic simulators designed by surgical residents at a local conference in a lower middle income country.

Material/Methods: A competition was held at a surgical conference to allow for residents to come up with ideas to design their own simulators. Various factors were looked into assessing the various designs. These included uniqueness, looks, effectiveness, cost and reproducibility.

Results: 4 types of simulators were designed. The first one was a mannequin with a camera fitted inside and 4 ergonomically placed holes to function as ports. This was the most liked and effective simulator. Cost was 100\$ and it needed a TV or a monitor to function. Second was a foldable book type of simulator which used the camera and screen of a tablet or a phone to function. It was the simplest and cheapest design but needed a camera phone or tablet to work. Cost 30\$. Third was a simple plastic box with a webcam design. Its cost was 40\$ and needed a laptop or a computer to function. The fourth one was designed like a periscope and used angled mirrors for reflectors. No electrical equipment was used in this. It was the cheapest simulator in terms of running cost as no cameras or phones were required. Cost 80\$.

Conclusion: Various options exist for surgical residents in developing countries to design and use their own simulators. A few have been discussed and all of these can be easily reproduced.

053 P

LAPAROSCOPIC VERSUS OPEN RIGHT HEMICOLECTOMY: RESULTS FROM A COUNTRY WITH LIMITED RESOURCES.**IRFAN UL ISLAM NASIR, MUHAMMAD IJAZ ASHRAF, MUHAMMAD FAHD SHAH, AWAIS AMJAD MALIK, MUHAMMAD TAQI PIRZADA, ABDUL WAHID ANWER, SHAHID KHATTAK, AAMIR ALI SYED.,****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE. PAKISTAN**

Purpose/Objective: We conducted this study to evaluate the early surgical outcomes of open and laparoscopic right hemicolectomy in our patients where most of the laparoscopic surgeries are performed in last 5 years.

Material/Methods: We retrospectively analyzed 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 preformed data sheet 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 open. Median age was 50 for lap and 51 for open. Blood loss was less in lap group (50mls) as compare to 100mls for open group but operative time was more in lap group (average 240 minutes Vs 170 minutes for open). Specimen length was comparable in both the groups (median 30.5cm for lap vs 32 for open group), similarly proximal, distal and mesenteric margins including the number of retrieved lymph nodes (median 18.5 for lap vs 18 for open group) were all comparable between the two groups. 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: We concluded that there is no difference in early surgical outcomes of laparoscopic versus open right hemicolectomy.

054 P

AN INSTITUTIONAL EXPERIENCE OF HARTMANN'S REVERSAL PROCEDURE**MUHAMMAD IJAZ ASHRAF, NAMRA UROOJ, IRFAN UL ISLAM NASIR , AWAIS AMJAD MALIK, RAZA SAYYED, AAMIR ALI SYED, FAISAL HANIF****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE. PAKISTAN**

Purpose/Objective: Hartmann's procedure is normally performed for left sided colonic pathologies in emergency situations. Restoration of intestinal continuity after Hartmann's procedure has traditionally been viewed to be technically demanding and associated with significant morbidity and mortality. This study has been done to show reversal rate after Hartmann's procedure in an Asian population.

Material/Methods: Data collected from database showed that 106 patients had undergone Hartmann's procedure from Jan, 2006 to Dec, 2015 due to colorectal carcinoma. Patients who subsequently underwent Hartmann's reversal were identified and their records reviewed retrospectively.

Results: Hartmann's procedure was done under emergency situation in 81 patients either due obstruction (65.1%), perforation (9.4%) and anastomotic leak (1.9%). It is done electively in 25 patients mostly due to poor bowel preparation secondary to stenosing nature of tumor. Hartmann's reversal was done in 56 (52.8%) patients. The reversal was not offered in remaining patients either due to disease recurrence (36.7 %), metastasis (26.5%), lost of follow up (28.5%) or others (8.1%).The median interval between resection and reversal was 32 weeks.

Conclusion: In our population, Hartmann's procedure is more commonly performed for colorectal cancer under emergency situations. Reversal rate is 52.8% and the most common reasons for not performing reversal procedure was either locoregional recurrence or distant metastasis.

055 P**APPENDICEAL AND RECTAL CARCINOMAS WITH KRUKENBERG'S TUMOUR
MIMICKING PRIMARY OVARIAN CANCER****AYESHA SABA. ROZILLA SADIA KHAN****AGA KHAN UNIVERSITY HOSPITAL, KARACHI, PAKISTAN**

Krukenberg tumor is an uncommon metastatic tumor of ovary. It accounts for 1%-2% of ovarian malignancies. Pylorus of stomach is the most common site of primary tumor. We are presenting two case reports of patients who were diagnosed to have Krukenberg ovarian masses. One case was an occult appendiceal adenocarcinoma (AACa) which manifested clinically as a primary ovarian cancer. Staging laparotomy revealed large right sided ovarian tumor of clinical FIGO Stage III. Histological examination revealed a poorly differentiated adenocarcinoma which involved right ovary and the appendix transmurally. Immunophenotypic analysis revealed positive expression of CK 20 and CDX 2 which was compatible with appendiceal primary and ovarian metastases. Another case is of a 60 years old female who presented with right adnexal mass and rectal mass. A histological analysis revealed a moderately differentiated adenocarcinoma of rectum, cytokeratin 7 is negative and cytokeratin 20 and CDX2 is positive. In view of immunohistochemical profile large bowel is likely primary tumor site. AAC and rectal carcinomas are uncommon and they should be considered in the differential diagnosis of intra-abdominal masses. The distinction between ovarian, rectal and appendiceal primary malignancies is critical as the treatment modalities vary.

056 P

SALVAGE SURGERY FOR ANAL CANAL CA. LONG TERM OUTCOMES FROM A DEVELOPING COUNTRY.**AWAIS AMJAD MALIK; SYED HASAN RAZA, IRFAN-UL-ISLAM NASIR, MUHAMMAD FAHAD SHAH, ABDULWAHID ANWAR, SHAHID KHATTAK, AAMIR ALI SYED.****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL & RESEARCH CENTER, LAHORE, PAKISTAN.**

Purpose/Objective: To assess to the role of salvage surgery on survival in patients with Anal canal Ca.

Material/Methods: All patients with a diagnosis of Anal canal Ca from 2006 to 2015 were studied. Basic demographic data was recorded. Treatment modalities used were recorded for all patients. Long term surgical outcomes were recorded. Median survival in months was recorded. All data was recorded in SPSS ver. 20.

Results: A total of 77 patients were included. There were 54 males and 23 females. 41 had SCCa on histology, 28 had an AdenoCa, 7 had a melanoma and 1 patient had a GIST. 54% patients had a T4 lesion, 30% had a T3. 73% patients were node positive. Chemotherapy was offered to all 61 (80%) patients as a first line of therapy. Radiation was offered to 63 (82%) patients. 12 (16%) patients had a complete response. 36 (47%) patients had a partial and 15 (19.5%) patients had no response to chemoradiation. Surgery was offered to 37 patients. 4 patients refused to undergo surgery. 33 patients underwent surgery. Of these 26 had a curative resection. 7 had irresectable disease and underwent a colostomy only. 18 patients had a recurrence. 9 patients had a local recurrence while 9 patients presented with distant mets on surveillance. Median overall survival for all patients was 46 months. For patients who had a complete response overall survival was 60 months. Patient who had a partial response to ChemoXRT has an overall survival of 40 months. For patients with partial response who were offered surgery the overall survival increased to 47 months. For patients with no response or progressive disease after chemo XRT the overall survival was 18 months. Surgery didn't show any improvement in survival in such patients with an overall survival in patients undergoing surgery of 18 months. Anal melanoma had worst survival outcome of only 26 months, adenoca 34 months and SCCa 52 months, 1 patient with GIST completed his 5 year followup and was discharged from service.

Conclusion: Salvage surgery has a role in improving survival in Anal cancer patients with partial response to chemoradiation. Role of surgery in patients with complete or no response couldn't be established.

057 P

OUTCOMES OF POSTERIOR PELVIC EXENTERATION AT A SPECIALIST ONCOLOGICAL CENTRE**SHALLA ALI , SYED HASAN RAZA,RAZA SAYYED, AAMIR ALI SYED****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL & RESEARCH CENTER, LAHORE, PAKISTAN**

Purpose/Objective: 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.

Material/Methods: All patients undergoing posterior pelvic exenteration between 2002 and 2014 were studied. Clinical details, operative, postoperative and follow-up data were recorded from electronic case records and analyzed using IBM SPSS Ver 20.

Results: Over the 12 year period of study, we identified 28 female patients who underwent posterior pelvic exenteration. The median age was 50 years (IQR 40 – 54 years). Primary tumor was Ovarian in 23 patients, rectal in 3 patients and uterine in 2 patients. Exenteration was performed for recurrent disease in 23 patients. Median operative time was 270 minutes (IQR 222 – 302 minutes). Three patients developed postoperative complications (Anastomotic leak, Pulmonary Embolism, Ureteric injury in one patient each). Median hospital stay was 7 days. Over a median follow-up duration of 21 months (IQR 9.8 – 33 months), 12 patients were disease free, 6 were alive with recurrence, and 4 had died of recurrent disease while 2 patients died from other causes.

Conclusion: 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 tumors is required for optimal disease control.

058 P

OPTIONS FOR PERINEAL DEFECT CLOSURE FOLLOWING EXTRALEVATOR ABDOMINOPERINEAL EXCISION IN RESOURCE-LIMITED SETTING**RAZA SAYYED¹, SYED HASAN RAZA², SHAHID KHATTAK², AAMIR ALI SYED²****1 PATEL HOSPITAL, KARACHI, 2 SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTER, LAHORE, PAKISTAN**

Purpose/Objective: Extralevator abdominoperineal excision (ELAPE) has evolved in the last decade as an oncologically acceptable surgical procedure in the management of low rectal cancer. Management of the perineal defect resulting from wider resection at the level of levator muscle remains a challenge for the surgeon. This is especially true in developing countries where available resources do not allow for expensive biological mesh or a flap closure of these defect. We report our institutional experience in management of the perineal wound defect following ELAPE at a specialist cancer hospital.

Material/Methods: All cases that underwent ELAPE between October 2014 and Feb 2016 were included. Clinical details, operative data and postoperative outcomes were retrieved from electronic case records. Method for management of the perineal defect was recorded in each case.

Results: A total of 47 patients underwent ELAPE during the study period. The mean age was 44 years. Median distance from anal verge was 2 cm with median length of tumor segment of 6 cm. There were 35 male and 12 female patients. There were 4 patients with T2 tumors, 36 patients with T3 tumors and 7 patients with T4 tumors on preoperative MRI scans. Enlarged lymph nodes were present in 41 patients.

Median duration of surgery was 335 minutes. Median blood loss was 75 ml. The perineal defect was closed in 42 patients using omentoplasty. One patient had the defect closed by gracilis muscle rotational flap. Mesh was used in 26 patients. 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 30 patients while 12 patients required wound opening and care with dressing. Re-exploration of perineal wound was required in 2 patients. Median hospital stay was 6 days.

Conclusion: 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.

059 P

MANAGEMENT OF CA APPENDIX - AN INSTITUTIONAL EXPERIENCE**OSAMA SHAKEEL, AWAIS AMJAD MALIK, SADAF BATOOL, UMER FAROOQ, SHEHRYAR RIAZ, IRFAN-UL-ISLAM NASIR, AAMIR ALI SYED, SHAHID KHATTAK.****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL & RESEARCH CENTER, LAHORE, PAKISTAN**

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

Material/Methods: 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 analyzed in SPSS ver 21.

Results: A total of 19 patients were included in the study. Median age was 58 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 adenoca 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.

060 P

FREQUENCY OF PERCUTANEOUS ENDOSCOPIC GASTROSTOMY SITE INFECTION IN CANCER PATIENTS.**KAMRAN MUDDASAR SAEED, SHAFQAT MEHMOOD, AUN RAZA****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL & RESEARCH CENTER, LAHORE, PAKISTAN**

Purpose/Objective: Ever since the introduction of percutaneous endoscopic gastrostomy (PEG), in 1980 by Gauderer et al., its use has been steadily increasing to obtain an enteral access for patients unable to take feeds orally [1, 2]. Like any medical procedure, PEG tube insertion has its own complications, including vomiting/aspiration, leakage, perforation/peritonitis, tube migration, hemorrhage, PEG tube site infection and abscess formation [3]. PEG tube site infections have been reported as the commonest complication with rates ranging from 5 to 30 % [4].

Our study aim was to estimate the frequency of PEG site infections seen in cancer patients.

Material/Methods: Data on 611 patients was collected retrospectively from Jan 2013 to December 2014, at our cancer center. This included demographics and baseline clinical characteristics. We also looked at occurrence of PEG infection in the study sample. The type of PEG-site infection was evaluated as mucoid or purulent discharge, erythema with or without discharge and cellulitis. The intent of PEG tube insertion whether palliative or curative was also looked at.

Results: The mean age of the 611 patients analyzed was 52.6 years (SD 14). Of these 62.8% (n=405) were male and 37.2% (n=227) were female. Majority of the patients (57.9%, n=354) had oesophageal carcinoma as the primary diagnosis, followed by nasopharyngeal carcinoma in 12.8% (n=78), post-cricoid cancer in 7.9% (n=48), carcinoma of the tongue in 4.1% (n=25) and carcinoma of the alveolus in 2.5% (n=15). The remainder of the patients had either a head and neck, CNS or a metastatic malignancy of a distant site. PEG-site infection was seen in a total of 30.6% (n=187). Purulent discharge was the most common manifestation seen in 15.9% (n=97) patients. 7.5% (n=54) had mucoid discharge only, whereas 4.3% (n=26) had erythema along with discharge. Five patients (0.8%) exhibited erythema only and there was no documentation of the type of infection in 2.1% (n=13) patients. A majority of patients (82%, n=501) patients had PEG inserted for a curative intent, while 18% (n=110) had PEG inserted for palliative purpose. PEG site infection had no tactical significance, when it was compared with respect to curative or palliative intent.

Conclusion: PEG-site infection is a relatively common entity seen in relation to cancer patients undergoing the procedure, whether with a curative or a palliative intent. Prospective studies are needed to confirm these findings and elucidated the factors involved in PEG-site infection.

061 P

INDICATIONS AND COMPLICATIONS OF SURGICAL GASTROSTOMY IN A TERTIARY CARE SETUP.**SHEHRYAR RIAZ, SADAF BATOOL, AWAIS AMJAD MALIK, MUHAMAD IJAZ ASHRAF, OSAMA SHAKEEL, HASHIM HUSSNAIN, SHAHID KHATTAK, AAMIR ALI SYED.****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL & RESEARCH CENTER, LAHORE, PAKISTAN**

Purpose/Objective: To study the indications and complications of surgical gastrostomy at SKMCH&RC.

Material/Methods: All patients who underwent surgical gastrostomy our hospital from 2006-2015 were included in the study. All patients demographics, diagnosis and indications for surgery were recorded. Mode of surgery, type of gastrostomy tube used and per op complications were also recorded. All data was entered and analysed in SPSS ver 21.

Results: Total of 42 patients underwent surgical gastrostomy tube insertion. Most common diagnosis was post cricoid Ca in 16 patients, Ca Esophagus in 18, Ca tongue in 8 patients. All patients had failed endoscopic PEG and radiological gastrostomy insertion. 15 were performed laparoscopically and 27 underwent open gastrostomy insertion. Stamm gastrostomy was the most common technique used. Foleys catheter was used in 27 patients and purpose built Gastrostomy tubes were used in 15. Post op complications were seen in 21 patients. 6 patients developed Peri gastrostomy leak. 9 patients developed superficial wound infections. Gastrostomy feed was initiated in mean 24 hrs post operatively.

Conclusion: Surgical gastrostomy is a safe and reliable option in patients who have failed endoscopic or radiological gastrostomy insertion.

062 P

COMPARISON OF PCR AND IHC ASSAYS FOR ANALYZING HUMAN PAPILLOMAVIRUS INFECTION IN ORAL SQUAMOUS CELL CARCINOMA**S.M.A.ALI, B.IRFAN, I.ZAHID, M.S.AWAN****THE AGA KHAN UNIVERSITY, KARACHI, PAKISTAN**

Purpose/Objective: Polymerase Chain Reaction (PCR) and Immuno-histochemistry (IHC) are two well-known techniques used for the diagnoses of genetic diseases, cancerous tumors and different pathogens. This study was conducted to compare and analyze the PCR and IHC techniques for their sensitivity to Human Papilloma Virus (HPV) in Oral squamous cell carcinoma (OSCC).

Material/Methods: This study is based on samples collected retrospectively from 47 patients with primary OSCC who were diagnosed and treated at The Aga Khan University Hospital (a major referral center in Pakistan) during the period of January 2010 to December 2013. The inclusion criteria was the availability of complete clinicopathologic data, an adequate clinical follow up and presence of sufficient paraffin- embedded tumor material. HPV general and type specific 16 and 18 were investigated by means of PCR and its immuno-reactivity was further investigated by means of immuno-histochemistry.

Results: Among the 47 evaluated patients, 32 (68.1%) males and 15 (31.9%) females, PCR detected the presence of HPV in 32 (68.1%) patients while IHC showed no positive test results. Results detected from IHC were insignificant and negative. p53 was positive in 32 (68.1%) patients and negative in 15 (31.9%). HPV type 16 being the most prevalent type showed positivity in 27 (57.4%) patients.

Conclusion: We conclude that PCR is more sensitive and reliable when diagnosing and detecting HPV for oral squamous cell carcinoma rather than IHC as the results suggest that results from IHC were all negative and insignificant, hence PCR should be the first initial diagnostic test for the detection of HPV in tumors due to its better sensitivity for HPV.

063 P

OVEREXPRESSION OF EGFR, COX2 AND CYCLIN D1 IN ESOPHAGEAL SQUAMOUS CELL CARCINOMA (ESCC): A PILOT STUDY OF 24 PAKISTANI PATIENTS

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Purpose/Objective: Prognosis of esophageal squamous cell carcinoma (ESCC) remains poor till date despite of advancements in surgical techniques, chemotherapies and radiotherapies. Hence, an increasing interest exists in identifying biological markers of therapeutic or prognostic value that participates in carcinogenesis and progression of ESCC. The aim of this pilot study is to study the overexpression of EGFR, COX2 and Cyclin D1 through immunohistochemistry in ESCC.

Material/Methods: This study is based on samples retrospectively collected from 24 patients with ESCC who were diagnosed and treated at Aga Khan Hospital during the period of January 2015 to May 2016. Immunohistochemistry for EGFR, Cyclin D1 and Cox2 overexpression was carried out on 24 cases using monoclonal antibodies against EGFR, Cyclin D1 and Cox2 respectively.

Results: Patient ages ranged from 25 to 76 years with the median of 47 years (mean = 48 years; \pm SD=12.0). There were 11 males and 13 females. 23 patients were alive at the time of follow up whereas one patient had expired. 4 individuals exhibited a tumor classification of poorly differentiated whereas 19 and 1 patient showed tumor classifications of moderately differentiated and well differentiated respectively. 15 patients also had Lymph Node involvement whereas none of the individuals' cancer had metastasized.

Overexpression of Cyclin D1 was observed in 20 patients (83%) using a threshold of 10% stained tumor nuclei. Overexpression of EGFR was observed in 10 patients (42%) and 14 patients (58%) were negative. Overexpression of Cox 2 was observed in 14 patients (58%) and 10 patients (42%) were negative.

Conclusion: The ideal marker in tumor prognosis is one that when present indicates tumor development and when absent excludes this possibility. However, it is unlikely that such a marker exists, and it is, therefore, also important to look at the status of other factors closely related to Cox2, EGFR, and Cyclin D1, as it is more likely that these markers could be one factor in a panel of factors with importance for outcome, etc. rather than the single prognostic factor. Nevertheless, it is clear that studied markers are very important in ESCC biology and also potentially in its treatment.

064 P

RISK FACTORS OF SMOKELESS TOBACCO ASSOCIATED WITH ORAL CANCER -A HOSPITAL BASED CASE CONTROL STUDY IN DOW INTERNATIONAL DENTAL COLLEGE**NATASHA AZHAR¹, FAREEHA AHMAD¹, MAHEEN S¹, AHMED SHAHEEN¹ AND NOUMAN MUGHAL¹****DOW INTERNATIONAL MEDICAL COLLEGE, DOW UNIVERSITY OF HEALTH SCIENCES**

Purpose/Objective: Across the globe, 1 in 10 deaths occur due to tobacco, which add up to more than 5 million deaths per year (B.W. Stewart, 2003). Tobacco is the main cause of localized oral lesions that are associated with an increased risk of oral cancers. Moreover, 30 carcinogenic substances have been reported to be present in tobacco or tobacco related products, besides nicotine (B.W. Stewart, 2003).

In our study, we attempted to find the association of smokeless tobacco, betel nut, betel quid and smoking with oral cancer in patients who were treated in Dow International Dental College's OPD from January 2015 to September 2016.

Material/Methods: We conducted a case control study and the sample size was calculated to be 62 cases and 62 controls. The mean age of the cases was 45 years (50 years for USA) and the male to female ratio was 3.5:2 (3:2 in USA). All of them were diagnosed positive for Squamous Cell Carcinoma, which has been reported as the most common type of oral cancer. Detail investigations of oral lesions revealed that 67.74% of the lesions were present on the buccal mucosa. This makes the buccal mucosa the most common site of occurrence, followed by (9.67%) the buccal mucosa with reteromolar extension, (9.67%) the buccal with alveolus extension, (4.8%) the palate, (3.2%) the buccal mucosa with floor of the mouth extension, (3.2%) the tongue and (1.3%) the alveolus.

Conclusion: Among the cases, 51.6% of the patients consumed smokeless tobacco alone and in combination with other products, 8% smoked cigarettes and 9.7% smoked cigarettes in combination with other products. 17.7% cases consumed betel nut and betel quid alone and combine and it was very interesting to know that 12.9% of the oral cancer patients were not using any tobacco or tobacco related compounds.

B.W. Stewart, P. Kleihues. (2003). World Cancer Report 2003. International Agency for Research on Cancer.

065 P

A RETROSPECTIVE INSIGHT OF HEAD AND NECK TUMORS: AN EPIDEMIOLOGIC ASSESSMENT

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Purpose/Objective: Head and neck tumors can lead to devastating cosmetic and functional deficits with resultant psychological, physical, and nutritional detriment. Despite recent advances in medicine, the overall survival for patients with head and neck cancer has remained static for the past 35 years.

This study aimed to determine the epidemiological characteristics of carcinomas of the head and neck in population, and the distribution of risk factors based on tumor locations.

Material/Methods: It is a retrospective analysis of the data from January 2008 to March 2016. A total of 50 patients were taken into account.

Results: Epidemiological parameters and risk factors were obtained from a self administered questionnaire, and tumor characteristics were obtained from clinical records. Among 356 head and neck cancers 147 oral cavity, 63 perioral, 60 scalp, 45 periorbital, 21 nose, 13 ear, 7 marjolin's ulcer. Most patients were males (78 %). Smokers (52 %) and betel nut/tobacco (16 %). 52% of the patients were from urban background and 48% from rural areas. Intra oral malignancy was more common in urban areas (71%) as compare to rural. While skin tumors were more common in rural area patients (80%) as compared to urban area patients. Tumor type was distributed as squamous cell carcinoma 200 (56%), basal cell carcinoma 93 (26%), recurrent tumor 14 (4%) dermatofibrosarcoma 14 (4%), adenocarcinoma 7 (2%), angiosarcoma 6 (2%), Carcinoma expleomorphic adenoma 6 (2%), Miscellaneous 16 (4%).

TNM Stage IV was 114 (32%), III was 135 (38%), II was 71 (20%) and I was 36 (10%). Three co morbidities were taken in to account 85 patients (24%) were hypertensive, 64 (18%) were diabetics, 35 (10%) had Hepatitis C and rest had no co morbidities.

Conclusion: Squamous cell carcinoma is the leading tumor type of head and neck malignancies. The distribution of these tumors differs between the sexes, with a higher proportion of oral cavity in men. Skin cancers were more strongly associated with rural areas, although less strongly associated with smoking and intraoral malignancy common in urban. Patients mostly presented with advanced stage of malignancy.

066 P

PLEOMORPHIC ADENOMA: CLINICAL & HISTOPATHOLOGICAL SPECTRUM IN SEVENTY CASES**S. HUSSAIN¹, N. NASEEM², I. UD. DIN. QURESHI³, R. ANJUM⁴, A.H.NAGI⁵****^{1,2,4,5}DEPT. OF ORAL PATHOLOGY, UNIVERSITY OF HEALTH SCIENCES LAHORE, PAKISTAN****³ DEPT. OF PATHOLOGY, POSTGRADUATE MEDICAL INSTITUTE LAHORE, PAKISTAN**

Purpose/Objective: Pleomorphic adenoma (PA) is reported to be commonest benign neoplasm of salivary glands in Pakistan constituting 80-90% of all benign salivary gland tumours. Owing to the high prevalence and scarcity of local data in relation to the spectrum of its histological features, this study was designed to describe the various morphological patterns of this tumour with potential diagnostic pitfalls.

Material/Methods: This descriptive study was conducted at the Department of Morbid Anatomy and Histopathology/ Oral Pathology, University of Health Sciences Lahore, Pakistan. Paraffin embedded blocks and detailed clinical data of 70 cases of pleomorphic adenoma reported at local tertiary care hospitals from Jan. 2013 to Sep. 2015 was retrieved. The histologic diagnosis was made on Hematoxylin and Eosin staining. The tumours were classified into classic, cell-rich and stroma-rich subtypes. The tumoral parenchyma was observed according to the presence of cuboidal, spindle, stellate, plasmacytoid, squamous and fat cells. The epithelial architectural pattern was studied with respect to the ducts, trabeculae, solid nests while mesenchymal component was divided into myxoid, chondroid and chondromyxoid elements. Unusual epithelial and /or stromal differentiations were observed and reported accordingly.

Results: The most frequently observed age group of the patients was the 2nd and 3rd decades (43%) with mean age of 35.57 (\pm 16.993). Females reported more frequently (69.9%) than males (30.1%) (F: M ratio= 2.3:1). Parotid gland (62%) was the commonest site involved followed by submandibular gland (19%) and palate (12.6%). Histologically, classic variant (46%) was the commonest subtype followed by cell-rich (32%) and stroma-rich (22%) types. Cuboidal (81%) and spindle (62%) cells dominated most cases. Ducts (92%) and trabeculae (22.2%) were the most common epithelial patterns seen while myxoid (90%) and chondroid (55.5%) were the most frequently encountered mesenchymal patterns. Unusual patterns of lipomatous (6.3%), osteoid (17.4%) and extensive squamous differentiation with keratin pearl formation were also observed (20.6%).

Conclusion: Pleomorphic adenoma occurs in a younger age group in our population with a female predilection. The most favoured site for PA is the parotid gland while the commonest minor salivary gland site is palate. Classic variant of PA is the commonest subtype followed by cell-rich variant. A variety of histological patterns can be encountered in pleomorphic adenoma which may cause diagnostic pitfalls and thus have serious therapeutic and prognostic implications. Hence there is a dire need for meticulous approach in reporting these lesions.

067 P

ORAL SQUAMOUS CELL CARCINOMA: A CLINICOPATHOLOGIC STUDY IN LAHORE, PAKISTAN**R. SAHAF¹, N.NASEEM², A.UR.REHMAN³, R. ANJUM⁴, A.H.NAGI⁵****^{1,2,4,5} DEPT. OF ORAL PATHOLOGY, UNIVERSITY OF HEALTH SCIENCES, LAHORE****³DEPT. OF HISTOPATHOLOGY, SHEIKH ZAID HOSPITAL, LAHORE. PAKISTAN**

Purpose/Objective: Oral squamous cell carcinoma (OSCC) is one of the most prevalent malignant neoplasm worldwide and a major public health problem in Pakistan due to its high morbidity and poor survival rates. Despite the efforts to improve the management of OSCC, by the advances in therapeutic approaches including surgery and chemo-radiotherapy, the overall *survival rate for OSCC remains poor*.

To describe the clinic-pathological pattern of OSCC in the local population in terms of age, gender, site distribution, clinical presentation, histological subtype and histological grading.

Material/Methods: This descriptive study was conducted at the Department of Morbid Anatomy and Histopathology/ Oral pathology, University of Health Sciences, Lahore. A total of 57 cases presenting with various histological subtypes and grades of OSCC, reported from January 2010 to September 2015, were recruited and selected from Pathology departments of University of health sciences, Mayo hospital, Sheikh Zaid Hospital and Allama Iqbal Medical College, Lahore. Relevant demographic and clinical data of the patients was recorded. The samples were subjected to haematoxylin and eosin stain for confirmation of the histological diagnosis and grading. Data was entered and analysed using SPSS 21.0

Results: Mean age of the patients was 51.88 ± 15.18 years and male to female ratio was 1.3:1 with 33 (57.9%) males and 24 (42.1%) females. The most common presenting complaint was non healing ulcer 28(49.1%). Tongue was the most frequently affected site 20(35.1%) followed by buccal mucosa 19(33.3%). Histologically, conventional squamous cell carcinoma was the most prevalent subtype 51(89.5%) followed by papillary OSCC 3(5.3%) and verrucous carcinoma 3(5.3%). An overall dominance of well differentiated carcinoma 39(68.4%) was seen compared to poorly differentiated tumors which formed a minor group 5(8.8%). The occurrence of ulceration was found to be significantly higher on the tongue ($p=0.03$). The statistical relation for age vs. gender and histologic subtype vs. grade of OSCC was found to be significant ($p=0.002$, $p=0.04$).

Conclusion: From the present study, it may be concluded that in our region most cases of oral squamous cell carcinoma (OSCC) are reported in 5th to 6th decade of life, with male preponderance. Tongue is the most commonly affected site and ulceration is the most common clinical presentation in OSCC patients. Histologically the most common subtype is conventional squamous cell carcinoma while well differentiated OSCC is the most common presentation.

068 P

OROPHARYNX, HYPOPHARYNX AND CERVICAL ESOPHAGUS RECONSTRUCTION; OUR EXPERIENCE OF PEDICLE FLAPS**FARRUKH ASLAM KHALID, SANIA AHMAD, MUHAMMAD SALEEM, JIBRAN RABBANI, MUHAMMAD AMIN, FALAK SHER MALIK, MOAZZAM NAZEER TARAR.****JINNAH BURN & RECONSTRUCTIVE SURGERY CENTER/ ALLAMA IQBAL MEDICAL COLLEGE, LAHORE. PAKISTAN**

Purpose/Objective: Reliable and single stage reconstruction following pharyngolaryngectomy and cervical esophageal defect presents a common reconstructive challenge for plastic surgeons. This study analyzed our reconstruction program over the last 8 years, from January 2008 to March, 2016.

Material/Methods: Retrospective study in Jinnah Burn & Reconstructive Surgery Center.

Results: Thirty four reconstruction procedures, of which 50% (17/34) were musculocutaneous flaps (14 pectoralis major, 3 platysma) and 50% (17/34) were fasciocutaneous (17 supraclavicular). Of these 75% were male and 25% were female. Mean hospital stay was 12 days. Complications were present in 35.29% (12/34), salivary fistula being the most frequent 17.64% (6/34). Wound dehiscence in 11.76% (4/34), Ischemic necrosis present in 2.9% (1/34) and wound infection in 2.9% (1/34). Previous radiotherapy and salvage surgery significantly increased the rate of complications.

Conclusion: Reconstruction of oropharynx, hypopharynx and cervical esophagus with pedicle flaps is very reliable, safe and useful option. Minimal flap and donor-site morbidity, excellent cosmetic properties, and the relative ease of preparation and use compared to other distant flaps render pedicle flaps an excellent reconstructive tool.

069 P

FUNCTIONAL OUTCOME OF ORAL AND PERIORAL TUMORS WITH MICRO VASCULAR AND PEDICLED FLAP RECONSTRUCTION**FARRUKH ASLAM KHALID, JIBRAN RABBANI, MUHAMMAD OMAR AFZAL, MUHAMMAD SALEEM, MUHAMMAD AMIN, MOAZZAM NAZEER TARAR****JINNAH BURN AND RECONSTRUCTIVE SURGERY CENTER/ALLAMA IQBAL MEDICAL COLLEGE, LAHORE. PAKISTAN**

Purpose/Objective: Reconstruction of the defect of oral and per-oral regions after tumor extirpation aims to restore function together with the form. This study was conducted to evaluate functional outcome using FIGS score (functional intraoral Glasgow scale), assessing chewing, swallowing and speech, in patients with oral and perioral tumors with microvascular and pedicled flap reconstruction.

Material/Methods: This retrospective study was conducted at our center, comprising record of 156 patients from January 2011 to march 2016. Pre-operative assessment, operation notes and follow-up record was assessed to determine functional outcome.

Results: Most common histopathological diagnosis was squamous cell carcinoma (83%), and stage IV a disease (56%). All Tumor ablation surgeries were done under frozen section control and reconstruction was done with microvascular free tissue transfer in 70% cases; with the free radial forearm being the most common flap (67%) followed by the free fibula flap. Chemo-radiation was given where indicated. Patients were assessed at 1 month, 3 months and 6 months. Mean pre-operative FIGS score was 12.7 / 15. After 1 month; it dropped to 10.1 and further dropped after adjuvant therapy to 9.2 in 3 months. Increase was seen at 6 months to 11.5. Site and size of tumor, surgical access, resection and method of reconstruction together with adjuvant therapy showed significant influence over outcome.

Conclusion: Function after tumor extirpation of oral and perioral regions can be restored to an acceptable level with free microvascular and pedicled tissue transfer. Extensive rehabilitation in conjunction with appropriate surgical technique results in better outcome.

070 P

IMPLICATIONS OF SAFE MARGIN RESECTION OF SQUAMOUS CELL CARCINOMA OF ORO-FACIAL REGION**ASAD AIZAZ CHATHA, NABEELA RIAZ, RIAZ AHMED WARRAICH****KING EDWARD MEDICAL UNIVERSITY, PAKISTAN**

Purpose/Objective: To Estimate the frequency of presence of tumor cells on margins of histopathological specimens of squamous cell carcinoma of orofacial region after safe margin resection and to estimate the recurrence of disease.

Material/Methods: This was a Quasi Experimental study. Study was carried out in the department of Oral and Maxillofacial Surgery, Mayo Hospital, allied with King Edward Medical University Lahore. Total 50 patients were included in this study. Patients selection was done by using a pre defined inclusion and exclusion criteria. On every follow up visit patient was examined clinically for any sign of recurrence of squamous cell carcinoma. CT-Scan was also done after 3 months in addition to examination of resected site. Collected information was transferred to statistical package for the social sciences (SPSS) version 11.5 computer software programme and analyzed accordingly.

Results: Mean age of all 50 patients was 51.78 ± 16.72 years. Minimum age of patients was 15 and maximum age of patients was 80 years respectively. Gender distribution of patients shows that there were 38% of the patients who were female and 62% of the patients were male. Histopathological results of soft tissue margins shows that 35(70%) patients had negative, 13(26%) patients had positive and 2(4%) patients had close margins. Histopathological results of hard tissue margins shows that 15(30%) patients had negative, 3(6%) had positive and only 1(2%) patients margin was close. Six patients had recurrence during post operative 6 month follow up period, five patients with recurrence were from the group of patients who had positive margins and one patient from among the patients who had close margin.

Conclusion: The margins are an important predictor of disease control and its recurrence. So it is the foremost duty of surgeon to aim for adequate margins at initial resection when treating Squamous cell Carcinoma of Oro facial region.

071 P

RECURRENCE RATE IN CARCINOMA ORAL TONGUE: RETROSPECTIVE ANALYSIS OF PROGNOSTIC FACTORS AND SURVIVAL OUTCOME**ZEESHAN ALI SHAIKH, SHABBIR AKHTAR****DEPARTMENT OF SURGERY, AGA KHAN UNIVERSITY HOSPITAL,**

Purpose/Objective: Karachi Cancer Registry data shows oral tongue is the second most common site for cancer (28.4%) in oral cavity. The prognosis and overall survival of Squamous cell carcinoma of oral tongue is poor due to aggressive local invasion and nodal metastasis, leading to recurrence. The rate of recurrence reported is 10 - 50%. Reported 5 year overall survival 48 – 51%. Factors affecting recurrence are tumor size, depth of invasion, nodal involvement, resection margin and adjuvant treatment.

Primary Objective: “To determine the recurrence rate in patients with squamous cell carcinoma of oral tongue treated at Aga Khan University Hospital Karachi.”

Secondary Objective: “To analyse the association of prognostic factors with disease recurrence.”

Material/Methods: Retrospective review of patients who underwent tongue cancer excision at AKUH from April 2000 to April 2010 were included in the study.

Results: Total of 95 patients were included. Mean age was 49.78 (± 14.09) years. Mean follow up was 57 months. Male predominance (69% vs. 31%). Rate of recurrence 40%. Recurrence in NO patients was 32% vs 63% in N2, statistically significant $p=0.026$. Recurrence rate in patients with early stage disease was 30% vs 54% in late stage, statistically significant $p=0.018$. Mean depth of invasion 11.7mm in patients who developed recurrence. Patients with clear surgical margins, the rate of recurrence was 19% vs. 68% in those with involved margins, statistically significant $p=0.000$. 5 year disease free survival 61% and overall survival 68%.

Conclusion: The rate of recurrence, disease free survival and overall survival rate in our study is comparable to international data. The prognostic factors of oral tongue squamous cell carcinoma significant in our study were the Surgical margins, Depth of invasion, Nodal status, Stage of disease.

072 P

COMPARISON OF PRE TREATMENT AND 1 YEAR POST TREATMENT QUALITY OF LIFE IN ORAL CANCER PATIENTS

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Purpose/Objective: To evaluate the pre and 12 months post treatment quality of life (QOL) in oral cancer patients treated surgically at a tertiary care hospital.

Material/Methods: A prospective study was conducted at Patel hospital of Karachi which was aimed to evaluate the changes in QOL after 12 months post treatment from their pre-treatment levels. UW-QOLV-4 questionnaires were used to assess post treatment outcomes. From head and neck cancer database, 121 oral cancer patients from 2013-2015 with pathologically proven squamous cell carcinoma of oral cavity were recruited out of which 47 were finally eligible for the study. All patients underwent surgical resection of the tumor and/or chemo-radiation.

The data was entered and analyzed on SPSS version 21. Paired sample t-test was used for pre and post treatment QOL assessment. Mean values and standard deviations were computed and a P value < 0.05 was considered as significant

Results: In total 47 patients who participated in the study, the mean age \pm SD was 48.09 ± 12.12 years. There were 40 (85.1%) males and 7 (14.9%) females in the study group. 34 (72.3%) patients underwent surgery + RTX, 9 (19.1%) had surgery + RTX + chemo, 3(6.4%) had preop chemo & surgery+ RTX while only 1 (2.1%) patient underwent surgery alone. Majority of the tumors were cheek tumors, 30(63.8%) followed by 10(21.3%) tongue tumors. Reconstruction was offered in 43(91.5%) patients. There were 32(68.1%) stage IV tumors. There was significant improvement in pain scores after treatment [mean difference (-14.89)], while speech scores [mean difference (11.17)], shoulder discomfort scores [mean difference (9.04)], taste scores [mean difference (28.72)], saliva scores [mean difference (52.12)] significantly worsen after treatment. The overall mean difference of all 12 domains after comparison of pre treatment and post treatment QOL was significant (96.80).

Conclusion: By our study we can conclude that Pain scores after treatment were significantly improved while scores of taste, saliva and speech significantly worsen after 12 months of treatment and these scores were better before treatment.

073 P

ROLE OF PRE-OP IMAGING IN LOCALIZING PARATHYROID ADENOMA, OUR INSTITUTIONAL REVIEW**S BATOOL, O SHAKEEL, A AMJAD, N UROOJ, I UL ISLAM, F HANIF, S KHATTACK, A ALI****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL & RESEARCH CENTER, LAHORE, PAKISTAN**

Purpose/Objective: Hyperparathyroidism has high cure rate(95%) following parathyroidectomy.Pre-operative MIBI scan has been shown to increase chances of high quality localization of parathyroid adenoma before parathyroidectomy.Its use has been linked to decreased rate of recurrence after parathyroidectomy(97%).

Material/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 analysed 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 along with parathyroidectomy.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 and there was no recurrence on follow up.

Conclusion: Pre-operative MIBI scan is associated with accurate localization of parathyroid adenoma and decreased need for the use of intraoperative methylene blue and endoscopic ultrasound. Additionally there is lower rate of re-exploration and recurrence following the use of this technique.

075 P

COMPARISON OF OUTCOME OF SOLITARY THYROID NODULE SURGERY WITH AND WITHOUT DRAINAGE**MUHAMMAD MANSOOR IQBAL,****JINNAH POSTGRADUATE MEDICAL CENTRE KARACHI**

Purpose/Objective: Majority of surgeons place drain following thyroid surgery to evacuate collected blood and serum. The aim of this study was to compare the outcome of thyroid surgery with and without drainage.

Material/Methods: This randomized clinical trial was conducted at Surgical Department, Jinnah Postgraduate Medical Centre and Dow University Hospital, Karachi from August 2013 to January 2014. Inclusion criteria were age between 18-65 years, either gender, solitary thyroid nodule with maximum size 3x3 cm, ASA I & II, euthyroid patients and duration of disease > 6 months. Exclusion criteria were bleeding diathesis, MNG, thyroid cancer, previous thyroid surgery and anticoagulant therapy. In group A drain was placed and in group B no drain was placed. Pain score on first postoperative day on visual analog scal (VAS) and postoperative hospital stay were noted.

Results: In Group A the median IQR of postoperative hospital stay was 2(1-2) and in Group B 1(1-1). In Group A the median IQR of pain on 1st postoperative day on VAS was 2(2-3) and in Group B 1(1-1). Pain was observed in Group A in 6.7% patients VAS score 1, in 53.3% Patients 2, in 36.7% patients 3 and 3.3% patients 4. In Group B 83.3% patients had VAS score 1, 13.3% had 2, 3.3% had 3 0% VAS score 4. In Group A 36.7% patients were discharged on 1st postoperative day, 53.3% on 2nd and 10.0% on 3rd postoperative day. In Group B 93.3% patients were discharged on 1st postoperative day, 6.7% on 2nd and 0% on 3rd postoperative day.

Conclusion: Routine drainage of thyroidectomy bed is unnecessary after uncomplicated thyroid surgery, as it is not effective in decreasing the rate of postoperative complications resulting from post thyroidectomy haemorrhage.

076 P

THYROID MALIGNANCY IN SOLITARY THYROID NODULE AND MULTINODULAR GOITER: RISK PREDICTION BASED ON SERUM TSH IN LOCAL EUTHYROID PATIENTS**SHAN ELAHI AND SAIRA SHAN*,****CENTRE FOR NUCLEAR MEDICINE (CENUM), MAYO HOSPITAL; KING EDWARD MEDICAL UNIVERSITY, LAHORE, PAKISTAN**

Purpose/Objective: Some studies advocate that prevalence of malignancies in solitary thyroid nodule (STN) and multinodular goiter (MNG) is comparable. Recently, high serum TSH concentration, albeit within normal reference range, is suggested a risk factor for prediction of thyroid malignancy in nodular goiter. We analyzed serum TSH data for malignancy risk prediction in local euthyroid patients presenting with STN or MNG.

Material/Methods: Demographic, scintigraphic and laboratory data of newly detected STN or MNG patients attending CENUM during calendar year 2013 was extracted from patient database. Thyroid scanning was carried out by injecting technecium-99m. Serum FT4 was determined by RIA and TSH by IRMA techniques using commercial kits. Only patients with normal serum TSH (normal reference range: 0.3-5.0 mIU/L) and FT4 (normal reference range: 11.0-22.0 pmol/L) were selected. Patients with TSH >1.8 mIU/L were considered at high and those with <1.0 mIU/L at low risk of thyroid malignancy.

Results: Thyroid scanning was performed in 3245 (71.1%) of total 4562 patients presenting with goiter (38% of all referred patient). More than half (n=1748; 53.9%) of the patients had nodular goiter including 478 (27.3%) presenting with STN. Compared to MNG patients (n=1270) STN patients had more frequent euthyroid profile (54.8% versus 77.4%; P<0.001). Among euthyroid patients those with STN (n=370) were relatively younger than MNG (n=696) patients (33.9 ± 11.6 versus 36.5 ± 12.1 year; P<0.001) and had significantly higher mean TSH level (1.7±1.0 versus 1.4±0.9 mIU/L; p<0.001). Further analysis showed that frequency of patients with TSH >1.8 mIU/L (maximum risk) was significantly higher in STN than MNG patients (35.4% versus 24.9%; p=0.0013). This percentage, in STN and MNG group respectively was comparable in male patients (34% versus 22.2%; p=0.3173) but significantly higher in female patients (35.6% versus 25.2%; p=0.0039). Moreover, MNG patients had significantly higher percentage of patients with TSH <1.0 mIU/L (minimum risk) than STN patients (36.1% versus 21.9%; p<0.001).

Conclusion: Risk prediction of thyroid malignancy based on local patients' TSH data support the classical view that solitary thyroid nodule had higher risk of malignancies than multinodular goiter particularly in female patients.

077 P

NASOPHARYNGEAL CANCER WITH SOLITARY RIB MET**ASMARA WAHEED, AHMED NADEEM ABBASI, NASIR ALI, ASIM HAFEEZ, BILAL MAZHAR QURESHI****AGA KHAN UNIVERSITY, KARACHI. PAKISTAN****Purpose/Objective:** To determine pattern of metastasis in Nasopharyngeal cancer

INTRODUCTION: Nasopharyngeal carcinoma is not uncommon in Pakistan. Although the predilection of this cancer to develop skeletal metastasis is widely confirmed in literature but it is quite rare to see a solitary bone met. This case is remarkable an isolated rib bone involvement, in the absence of locoregional recurrence after achieving a complete response to aggressive multimodal treatment, with radiotherapy and chemotherapy, has been

A 45 year old male with no known co-morbid, Gutka addict presented with complain of nasal blockage and decrease hearing on right side since last 1.5 year. On GPE a node of 1x1cm was palpable at right cervical level V in the neck. A CT scan of the paranasal sinuses was done that reported a mass in the right lateral wall of the nasopharynx. On biopsy of the above mentioned site, a diagnosis of nasopharyngeal carcinoma was established. The staging work up was negative for any metastatic disease. The management of the patient included induction chemotherapy consisting of two cycles of Cisplatin and 5 Fluoro-uracil given three weeks apart, followed by concurrent Chemotherapy and Radiation. Radical RT dose of 70 Gray in 35 fractions was given with 2 cycles of Cisplatin 100 mg/m² three weekly. A follow up scan done after 6 weeks of treatment showed complete resolution of the disease. Also, the nasopharyngoscopy was unremarkable. The patient was kept on follow up. After one and half year of completion of the treatment a CT scan of Head& Neck and Chest was done that reported a mass of 4.3 cm across the right rib. However there was no evidence of the disease in the primary site. Trucut biopsy of the expansile lytic lesion was done that was consistent with metastatic nasopharyngeal carcinoma. A PET scan was requested that reported an isolated lesion on the right rib with SUV of 23.28 Bone scan also show increased tracer uptake at right rib so resection of Right 3rd,4th and 5th rib was done. Postoperatively XRT 20Gy in 5 Fractions was done with palliative intent.

Results: Patient is still on follow up and disease free. Through this case report we can learn the role of metastectomy in Nasopharyngeal carcinoma.

Conclusion: Although there are reports of osseous metastatic NPC in the literature. We did not find previously published report of NPC metastasizing only to a rib.

078 P

MEETING ICRU REPORT 83 STANDARDS IN SIMULTANEOUS INTEGRATED BOOST-INTENSITY MODULATED RADIOTHERAPY (SIB-IMRT) HEAD & NECK CANCERS.**MUHAMMAD FURRUKH, SYED YAHYA SHAH, ZAIN UL HUSSAIN JAFRI, ATIQA ARJUMUND, AMMAD FAHIM.****CLINICAL ONCOLOGY, SHIFA COLLEGE OF MEDICINE, ISLAMABAD, PAKISTAN**

Purpose/Objective: Simultaneously integrated boost (SIB)/ intensity modulated radiotherapy (IMRT) is a technique that delivers different daily dose per volume which means various organs in the same field can be administered different dose in the same daily treatment. The goals of treatment delivery are to ensure conformity where the treated volume encompasses the planning tumor volume and the dose distribution is homogenous i.e. ensures uniformity of the dose to the treated volume. DV which is the absorbed dose that covers a fractional volume V (95-107% dose must cover the PTV in three dimensional conformal radiotherapy (3D-CRT), and 95-110% in IMRT/ SIB-IMRT), while VD is the fractional volume that receives at least an absorbed dose D (95-99% of the PTV should be encased by the absorbed dose). Radiation plan evaluation and approvals for each plan is integral, and this study is carried out to see if our SIB-IMRT plans meet the ICRU report 83 standards.

Material/Methods: This is a cross sectional analysis, carried out between 1st September' 2015 until 31st August' 2016, and conducted at the Radiation Oncology Department, SHIFA Cancer Center, SHIFA International Hospital, Islamabad. Radiation records from dose volume histogram (DVH) were obtained for 23 consecutive patient plans from SIB-IMRT. These plans were evaluated, compared, recorded and assessed to determine if the data from these plans were in accordance and complied with the standards of the ICRU Report 83. Homogeneity (HI) and conformity indices (CI) for the high dose planning tumor volume, integral dose (50% isodose) to normal tissues was recorded and are being presented as primary objective along with assessment for volume, location and number of hot spots. Furthermore, mean, minimum and maximum dose to organs at risk (OARs) are presented as secondary objective for the analysis along with monitor units and treatment times. The HI, CI, MU, actual treatment time and integral dose was also generated from the 3D-CRT plans, and it's mean is presented, while data for either techniques was compared using wilcoxon signed rank test on the values, where the p value is two tailed.

Results: 23 radiation plans were evaluated and dosimetric data is being presented. The mean D2% was 6999 cGy (minimum and maximum dose was 5363 and 7689 cGy respectively), and the mean D98% was 6208 cGy (minimum and maximum dose was 4457 and 7590 cGy respectively), the mean homogeneity indices was 1.13 (SD 0.12 with 95%CI 1-1.2), the range was 0.85 to 1.55, mode and median was 1.12 each...*(truncated)*

Conclusion: The ICRU report 83 standards were adequately met in our cohort. Either technique has its advantages, but OARs sparing despite higher doses, equal homogeneity and better conformity with SIB-IMRT in head & neck cancer makes it a better technique compared with 3D-CRT. The OARs dose constraints were also satisfactorily met and hot spots were not seen. SIB-IMRT is however, associated with more monitor units (3.75 times) and longer treatment time (3 times), but fewer radiation treatments.

079 P

LONG TERM RESULTS OF HYPOFRACTIONATED RADIOTHERAPY IN THE TREATMENT OF EARLY LARYNGEAL CANCER**S SARAH RASHEED1, SAMREEN CHAUDRY1,SAMAHA NAWAZ1, KOMAL MUSHTAQ1, FATIMA BATOOL1, ALI RAZA1, MUHAMMAD FAISAL2, MUHAMMAD ADEEL2, RAZA HUSSAIN2, ARIF JAMSHED1****1 DEPARTMENT OF RADIATION ONCOLOGY****2 DEPARTMENT OF SURGICAL ONCOLOGY.****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL & RESEARCH CENTER, LAHORE, PAKISTAN**

Purpose/Objective: Worldwide a range of radiation fractionation policies exist for the treatment of early glottic cancer. The aims of treatment are cure, laryngeal preservation and good voice quality while making effective use of available resources. Radiotherapy is generally the favored treatment in most centers despite comparable cure rates with surgery. In this study we report locoregional control and survival following hypofractionated radiotherapy in T1 early laryngeal cancer treat at Shaukat Khanum Memorial Cancer Hospital and Research Centre.

Material/Methods: Between January 2004 and December 2013, 177 patients with T1 N0 early glottis cancer were treated with hypofractionated Radiotherapy. Radiotherapy dose was 55 Gy in 20 fractions at 2.75 Gy per fraction once daily 5 times per week. All patients were included in the study

Results: Median age was 58 years (range: 21 – 92 years). Male to female Ratio was 12:1. The occurrence of major risk factors for laryngeal cancer smoking and use of smokeless tobacco was seen in 58% and 12% of the patients respectively. Median radiotherapy treatment time was 28 days. At the time of last follow up 6 patients had died of disease, 6 patients were dead of unrelated causes and 4 patients with local failure were successfully salvaged with surgery and are alive and well. The locoregional control rate after primary radiotherapy at 10 years was 84%. The 10 year overall and disease free survival was 86% and 93%.

Conclusion: Hypofractionated radiotherapy 55Gy in 20 fractions provides excellent long term locoregional control and survival with added advantage of optimizing resource usage in early glottis cancer.

080 P

SMALL CELL NEUROENDOCRINE CARCINOMA OF NOSE AND PARANASAL SINUSES:THE SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL EXPERIENCE**SAMAHA NAWAZ¹, FATIMA BATOOL¹, SAMREEN CHAUDRY¹, SARA RASHEED, ALI RAZA¹, MUHAMMAD FAISAL², MUHAMMAD ADEEL², IRFAN HAIDER¹,AWAIS AMJAD², RAZA HUSSAIN², ARIF JAMSHED¹****1 DEPARTMENT OF RADIATION ONCOLOGY****2 DEPARTMENT OF SURGICAL ONCOLOGY.****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL & RESEARCH CENTER, LAHORE, PAKISTAN**

Purpose/Objective: Small cell neuroendocrine carcinoma is a rare disease of nose and paranasal sinuses. In contrast to other regions SNEC of this region has been reported to be recurrent and locally aggressive. No definite treatment has been established till date because of rarity of this disease. The purpose of this descriptive study is to share our experience of 8 cases with small cell neuroendocrine carcinoma of nose and paranasal sinuses.

Material/Methods: Retrospective review of 8 patients presenting with Small cell neuroendocrine carcinoma of nose and paranasal sinuses, from January, 2005 to December, 2014 treated at Shaukat Khanum Memorial Cancer Hospital & Research Centre, was performed to determine the clinical characteristics and outcome of this disease.

Results: The subjects were 7 males and 1 female with a mean age of 41(range: 24 to 59). Tumors were present in nasal cavity (n=4), ethmoid sinus (n=3) and maxillary sinus (n=1). Almost 50% of patients were presented with AJCC stage IV-A. All patients had immunohistochemistry proven diagnosis. All patients (08) received radiotherapy with mean doses 58Gy (Range 54-66Gy). Surgery was performed in 2 while chemotherapy was administered in patients. Recurrence occurred in 3 patients, one each with loco-regional, distant and both. At a median follow up of 38 months, 5 patients were alive with no evidence of disease.

Conclusion: Small cell neuroendocrine carcinoma is a rare but aggressive neoplasm. Current standard of care varies but multi-modality approach should be the cornerstone in management of Small cell neuroendocrine carcinoma. Early diagnosis and intervention improve the final outcome.

081 P

**CONSERVATIVE REHABILITATION OF ACQUIRED MAXILLARY DEFECTS:
MAXILLARY OBTURATOR SIMPLE TO DIFFICULT CLINICAL SCENARIOS****SYED MURTAZA RAZA KAZMI****FATIMA JINNAH DENTAL COLLEGE, KARACHI**

Purpose/Objective: Rehabilitation of patients with acquired maxillary defects poses great challenge to the surgeon and prosthodontist. Significant deformation of tissues, dysfunctions of the stomatognathic system with concurrent biological imbalance of the oral cavity environment frequently affect the treatment to become arduous. Scars and contraction of the oral crevice may cause serious psychological deficiencies that are another aspect of the treatment schedule.

Case report: Case Series Obturators are used to seal the maxillary defects since 1600 century. They are now improved in term of materials, technique and design, thus producing promising outcomes. They can be categorized into surgical, interim and definitive type in reference to the surgery and hollow or open type in reference to the design.

The paper describes the advantages of obturators, general systems of classifications and steps of fabrication. Few cases will be shown to describe the clinical scenarios and methods to achieve the best clinical outcome.

Conclusion: Maxillary obturators help in feeding, wound covering, and improving speech, mastication, deglutition and facial contours. They have shown psychological benefits especially in patients with acquired defects.

082 P

AN EXPERIENCE OF 23 CASES OF TOTAL LARYNGO-PHARYNGO-ESOPHAGECTOMIES

FARHAN AHMED MAJEED**DEPARTMENT OF THORACIC SURGERY, COMBINED MILITARY HOSPITAL RAWALPINDI,**

Purpose/Objective: The study was carried out to ascertain the outcome of total laryngo-pharyngo-esophagectomies (TLPO) for malignant cervical esophageal disease and to determine the morbidity associated with it.

Material/Methods: This is a retrospective study of 23 cases of TLPO in four and a half years from Jan 2010 to Aug 2014. Patients included were of histologically proven Squamous cell carcinoma oesophagus, operated with curative intention. 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 patients. All patients were counselled about bilateral recurrent laryngeal nerve division and permanent tracheostomy preoperatively. Stomach was used as conduit and feeding jejunostomy was done intra operatively in all cases with 16 Fr nasogastric tube. Jejunal feeding was started on first post-operative day in all patients. Suction drains in the neck were kept for at least five days and oral feeding was started on 6th-7th day of surgery. Tracheostomy care at home was taught to all patients before discharge from hospital.

Results: 14(61%) were males and 9(39%) were female patients. All patients had dysphagia to solids in presenting symptoms. 6 (26%) had neoadjuvant radiotherapy. 3 (13%) had tracheostomy done before surgery for respiratory compromise due to tumour. Guardian stitch was applied in 6 patients. Anastomotic leak was seen in 3 (13%) patients. Hemorrhage in 2 (8.6%) patients. Anastomotic stricture was seen in 1 patient which was managed by dilation under anesthesia. Pneumothorax and pleural effusions developed in 2(8.6%) and 3(13%) patients respectively and were managed conservatively with tube thoracostomies. Overall mortality was in 4 (17.3%).

Conclusion: Upper cervical esophageal malignancies pose significant challenges in managing such patients. Total laryngo-pharyngo-esophagectomy with permanent tracheostomy offers good results in patients with resectable disease and minimizes the morbidity and mortality associated with it.

083 P

**RADIATION SET-UP ERRORS IN SIB-IMRT OF HEAD & NECK CANCERS;
EXPERIENCE FROM A TERTIARY CARE CENTER FROM PAKISTAN.****MUHAMMAD FURRUKH, AMBREEN MUZAFFAR, HAFSA IRFAN, ATIQA ARJUMUND, ASIF MASOOD, UZMA QASIM, MUHAMMAD ALI AFRIDI****CLINICAL ONCOLOGY, SHIFA CANCER CENTER SHIFA INTERNATIONAL HOSPITAL,
ISLAMABAD, PAKISTAN**

Purpose/Objective: Simultaneously integrated boost-intensity modulated radiotherapy (SIB-IMRT) is an emerging technique of delivering radiation treatment in head and neck cancers. Patients require accurate re-positioning on daily basis throughout 30-35 days of radical treatment to ensure precise radiation dose delivery. Daily set-up poses positioning errors and geometrical uncertainties, despite head rest and face mask immobilization after laser alignment. At our institution, 5 mm margin has been adopted as the PTV-margin (planning target volume) and questioned in this study if it is appropriate in SIB-IMRT set-up in our cohort.

Material/Methods: This is a cross sectional analysis, carried out on 20 consecutive patients undergoing SIB-IMRT, between 1st September' 2015 until 31st August' 2016, in department of Radiation Oncology, SHIFA International hospital, Islamabad and approved by Institutional review board and medical ethics committee. 204 images of these patients were obtained from EPID (electronic portal device imaging device) installed on the Linear Accelerator (Precise; VARIAN), at the Radiation Oncology Department, SHIFA Cancer Center, SHIFA International Hospital, Islamabad. These images were reviewed using the ARIA v13.5 software. Digitally reconstructed radiographs (DRRs) were generated from the eclipse treatment planning system, and the software then compared these with the corresponding x-ray images obtained from EPID. The shifts were recorded and corrected in three axes: x, y and z in mm, and the best match image was determined after couch movements, prior to radiation delivery.

Results: The median and mode for set-up error correction were zero mm each, while the mean for couch movement in 3 axes were; A-P (anterior-posterior), L-R (left-right) and S-I (superior-inferior) direction was -0.0005 mm (SD 0.067), 0.03 mm (SD 0.134) and -0.01 mm (SD 0.088) respectively. The range for couch movement in x, y and z direction was 10 mm (A-P: minus 6 to 4 mm), 13 mm (L-R: minus 5 to 8 mm) and 9 mm (S-I: minus 4 to 5 mm) respectively. Only 4 (2.04%) of 204 images obtained from EPID fell outside >5 mm margin. Mean couch movement after correction were 99.1%, and fell within <5 mm; A-P 99.5%, L-R 98% and S-I 100%. Mean couch movements after correction were 97.3% and fell within < 3 mm; A-P, 95% in L-R and 98% in S-I couch movements respectively.

Conclusion: A 5 mm margin is a reasonable PTV margin expanded over clinical target volume while contouring for SIB-IMRT in head & neck cancers in our departmental setting, where 98% of EPID obtained images corresponded with DRRs, while 3 mm is an acceptable PTV margin, where 94% of the images corresponded with the DRRs. Megavoltage on-line imaging is reproducible, convenient, and cost-effective tool that substantially improves quality of precision radiotherapy delivery.

084 P

DOSE VERIFICATION OF SIMULTANEOUS INTEGRATED BOOST (SIB) INTENSITY MODULATED RADIOTHERAPY (IMRT) IN HEAD & NECK CANCERS USING IMRT MATRIX.**HASEEBULLAH, MUHAMMAD FURRUKH, BILAL NASIM, DANIYAL AMEEN, ATIQA ARJUMUND, UZMA QASIM, ASIF MASOOD, M.A. AFRIDI.****CLINICAL ONCOLOGY, SHIFA CANCER CENTER SHIFA INTERNATIONAL HOSPITAL, ISLAMABAD, PAKISTAN**

Purpose/Objective: Before radiation treatment, through verification of planned radiation dose is a pre-requisite of IMRT due to its complexity. Plans of simultaneous integrated boost-intensity modulated radiotherapy (SIB-IMRT) for head & neck cancers may be associated with some limitations and errors, which may occur during pre-treatment checks and can be detected and corrected using 2D Array/ IMRT Matrix detectors. Quality checks are mandatory, and the current study reveals if these tests are in place, and consistent with International practices. The primary aim of our study is to calculate variation of gamma index (GI) and coefficient factor (CF) during pre-treatment verification.

Material/Methods: We created SIB-IMRT head & neck plans on 20 patients using eclipse treatment planning system (TPS) with X6 MV photons. Each plan was optimized and calculated using inverse planning algorithm (DVO) and AAA algorithm (v13.5) respectively. The plan acceptance criteria were 95% of the planning tumor volume (PTV) to receive at least 95% of prescribed dose. After plan acceptance corresponding pre-treatment verification QA plane were generated in Eclipse TPS (v13.5) and calculated using the same AAA. The QA (quality assurance) plan setup were at 95 cm SSD, 5cm depth and collimator and gentry' angle were set to "0." QA Procedure for IMRT was executed by IMRT matrix having 7 mm resolution. The Gamma index (GI), CF and standard deviation results of each plan were recorded. The GI evaluates the concurrence of 2D dose distributions using the criteria of 3% dose difference (DD) and 3 mm distance to agreement (DTA). If the value is <1, the criteria values are not exceeded, and if the value is >1, the result lies outside the tolerance range. The analysis was made using gamma evaluation method to compare measured and calculated dose distribution.

Results: We calculated the mean and standard deviations (SD) for each passing criteria for 3% DD, 3 mm DTA for each SIB H&N IMRT plan, with 1 mm interpolation method for IMRT Matrix. The gamma evaluation criteria were 3% and 3 mm and QA data are being presented in graphical form and gamma index is presented in standard deviation with 99% CI. The mean coefficient factor was 0.989 (SD 0.009; 99%CI 0.984-0.995), mode and median were 0.99 each and the range was 0.97 to 0.9985 (0.028).

Conclusion: The results suggest the gamma criteria of 3% DD & 3 mm DTA, and CF & SD of ± 3 % criteria is the most suitable criteria for Head & Neck SIB-IMRT quality assurance using IMRT Matrix, and here we achieved the 99% pass results. We found SIB-IMRT head & neck treatment plans QA checks within range and meeting the International tolerance and acceptance levels.

085 P

BENIGN AND MALIGNANT LESIONS OF SALIVARY GLAND IN PAKISTAN: SEVEN-YEARS-DATA: (2009-2015)**SYED MUHAMMAD ALI NAQVI, ANWAR ALI, TALAT MIRZA, TAZEEN MUSTANSAR' MUHAMMAD ASIF QURESHI****ISHRAT UL EBAD KHAN INSTITUTE OF ORAL HEALTH SCIENCES (DIKIOHS), SURGERY DEPARTMENT, HISTOPATHOLOGY AND PATHOLOGY, DOW UNIVERSITY OF HEALTH SCIENCES (DUHS), KARACHI. PAKISTAN**

Purpose/Objective: The spectrum of salivary gland lesions is wide and the relative prevalence of neoplastic versus non-neoplastic lesions is variable in different studies. Data regarding spectrum of salivary gland lesions is scanty in Pakistan. This study will therefore pool data into national and international statistics for salivary gland disorders.

To describe Pathology based spectrum of salivary gland-lesions in Pakistani population.

Material/Methods: A study conducted at the Department of Histopathology, Dow diagnostic, reference and research laboratory (DDRRL), Karachi. All salivary gland lesions received at the laboratory during 2009-2015 were included in the study.

Results: A total of 473 samples were investigated. Of these, a total of 124 (26.2%) were non-neoplastic and 349(73.7%) were neoplastic lesions. Out of 124 non-neoplastic lesions, 68 cases (54.8 %) were of inflammatory origin and 56 (45.1%) were mucoceles. Chronic sialadenitis, 55 cases (44.3%) was the most common non-neoplastic inflammatory lesion followed by extravasation mucoceles, 42 cases (33.8%). Submandibular gland was the most common effected site. For mucoceles, lower lip was the most common site.

Of the 349 neoplastic lesions, a total of 267 (76.5%) were benign while 82 cases (23.4%) were malignant. Pleomorphic adenoma was the commonest salivary glands benign neoplastic lesions, 236 (88.3%) followed by benign lymphoepithelial cysts as 9 cases (3.3%). Parotid glands were involved in majority of pleomorphic adenoma cases, 167 (70.7%) out of 236 cases. Of the 82 malignant tumours, Adenoid cystic carcinoma 31 cases (37.8%) was the most common salivary gland malignant neoplastic lesion, mucoepidermoid carcinoma 27 cases (32.9%) was the second most common malignant lesion followed by 7 cases (8.5%) of Acinic cell carcinoma. Submandibular gland was the most common site in adenoid cystic carcinoma while parotid gland involved in majority of mucoepidermoid carcinoma.

Conclusion: Chronic sialadenitis was the most common non-neoplastic lesion, pleomorphic adenoma was the most common benign lesion and adenoid cystic carcinoma (followed by mucoepidermoid carcinoma) was the most common malignant lesion.

086 P

ASSOCIATION BETWEEN ARSENIC CONTENT OF DRINKING WATER AND RISK OF URINARY BLADDER CANCER IN VARIOUS AREAS OF LAHORE.**AZKA ATHAR****SIR GANGA RAM HOSPITAL LAHORE**

Purpose/Objective: Arsenic is a well-documented human carcinogen. Various previous studies carried out worldwide have indicated that arsenic can cause malignancy. Drinking water is a major source of arsenic ingestion. Unfortunately no documented data is present in this regard in Lahore. Very few researches have been carried out.

To evaluate association between bladder cancer and arsenic content of drinking water in different areas of Lahore. Safe level of arsenic in drinking water can help prevent bladder cancer.

Material/Methods: Case control study was carried out. 100 patients suffering from bladder cancer were enrolled as cases. 150 controls were enrolled. Enrollment was done from Township, Model town and Green town in Lahore. Through a questionnaire participants were interviewed about drinking water sources, use of water filtration plants, boiling of water at home and other variables. Arsenic level of drinking water from all areas under study was evaluated. Odds ratio and 95% confidence intervals (95%CI) were calculated.

Results: Analysis revealed that most of the people suffering from bladder cancer belonged to the area having arsenic concentration 4 to 10 times higher than permissible level (10ug/L). Odds ratio for bladder cancer was 8.9(95%CI=6.5-11.9) for people exposed to high concentration of arsenic in drinking water. Whereas control population was found to be consuming municipally treated water with low arsenic levels.

Conclusion: This study compels to support positive association between arsenic contaminated water and risk of developing bladder cancer. Arsenic content within permissible level can help prevent bladder cancer.

087 P

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

MUHAMMAD SHADAB KHAN, AZFAR ALI, MUHAMMAD ATTAULLAH KHAN, KHARRUM MIR

DEPARTMENT OF SURGICAL ONCOLOGY

SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTER.

Purpose/Objective: Adrenocortical carcinoma is a rare tumor with poor prognosis. This study was aimed at analyzing the clinical out look and treatment results of 13 patients with this disease and to point out the factors associated with long term survival after resection.

Material/Methods: A retrospective review was made from case notes of patients with adrenocortical carcinoma presenting at SKMHL department of onco-urology over last five years (Dec. 2010 till august 2015). Patient age, gender, clinical presentation, tumor size, TNM classification on CT scan findings, surgery, adjuvant chemotherapy, tumor recurrence and patient survival were examined. All data analyzed on SPSS 20.

Results: Study comprised of 13 patients including 6 men and 7 women. Hormonally active tumor was diagnosed in 4 patients while rest presented with vague symptoms or abdominal mass. At diagnosis all cases were classified as resectable tumors with local lymph node involvement in one patient. 11 patients 84.6% had T2 and 2 patients 15.4% had T3 tumor on CT scan. 12 patients 92.3% had lymph node negative and 1 patient 7.7% had lymph node positive tumor. 8 patients 61.5% were operated out side SKMH and 5 patients 38.5% operated out side SKMH. One patient had positive resection margins. 3 patients 23.1% received adjuvant chemotherapy out of 13 total. 3 patients 23.1% presented with tumor recurrence out of 13 total. 2 patients 15.4% presented with metastatic disease. Follow up observed in all patients ranging from 5 year to one year, out of 13 patients 9 patients survived and on regular follow up while 2 patients had lost to follow up and 2 patients expired. Patients with recurrent disease with metastasis expired during follow up.

Conclusion: Survival is not effected by tumor size but is diminished with increasing age, poorly differentiated tumor, positive resection margins, presence of regional / distant disease and tumor recurrence

088 P**PRIMARY ADENOSQUAMOUS CARCINOMA OF PROSTATE: A DISTINCT RARE AGGRESSIVE SUBTYPE****ARIBAH ATIQ, NOREEN AKHTAR, ASIF LOYA, USMAN HASSAN, SAJID MUSHTAQ, MUHAMMAD AZAM****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN.**

Purpose/Objective: Adenosquamous carcinoma is a rare and aggressive tumor of prostate with only 30 cases reported so far in literature. We present a case of this rare entity that was encountered at Shaukat Khanum Memorial Cancer Hospital and Research Centre (SKMCH & RC).

Case report: A 70 years old male presented with urinary outflow obstruction and slightly raised PSA levels [5mg/ml (normal; 0-4 mg/ml)]. Transurethral resection of prostate was done and specimen sent to the pathology department of SKMCH & RC. Histologically, it composed of both malignant squamous and glandular components. Squamous component showed large tumor cells with thick cytoplasm and nuclei with prominent nucleoli. Glandular component showed tumor cells arranged in acinar pattern, predominantly in cribriform architecture, suggestive of Gleason grade 4+4(score 8/10). As the current guiding criteria, Gleason grading is not required for adenosquamous carcinoma of prostate (1). We report the case as the adenosquamous carcinoma of prostate.

Conclusion: This rare tumor has an extremely poor prognosis with all patients dying within 1 year of diagnosis.

089 P

CORRELATION OF PROSTATE SPECIFIC ANTIGEN WITH METASTATIC BONE DISEASE IN PROSTATE CANCER ON SKELETAL SCINTIGRAPHY**M. W. ASFANDYAR, A. AHMED, N. NIZAR, A. HASHMI, A. NAQVI, S. A.UL.H. RIZVI****SINDH INSTITUTE OF UROLOGY AND TRANSPLANTATION HOSPITAL, PAKISTAN**

Purpose/Objective: To evaluate the ability of serum concentration of PSA between two cutting points considering it as a predictor of bone metastasis on bone scan in prostate cancer.

Material/Methods: From Aug to Nov-2013, 42 consecutive patients with prostate cancer who underwent (Tc-99mMDP) bone scan were prospectively analyzed. The information was collected from the scintigraphic database. Patients who did not have a serum PSA concentration available within 1 month before or after the time of performing the Tc-99m MDP bone scan were excluded from this study. In addition, all patients necessarily have a pathological report available. Bony metastases were determined from the bone scan studies and no further correlation with histopathology or other imaging modalities were performed. To preserve patient confidentiality, direct patient identifiers were not collected.

Results: The mean age, mean PSA, and incidence of bone metastasis on bone scan were 68.35 years, 370.51 ng/mL and 19/42 (45.23%) respectively. According to PSA levels, patients were divided into 5 groups < 10ng/mL (10/42), 10-20 ng/mL (5/42), 20-50 ng/mL (2/42), 50-100 (3/42), 100-500ng/mL (3/42) and more than 500ng/mL (0/42) presenting negative bone scan. The incidence of positive bone scan (%) for bone metastasis for each group were 01 patient (5.26%), 0%, 03 patients (15.78%), 01 patient (5.26%), 04 patients (21.05%), and 10 patients (52.63%) respectively. From the 42 patients 19(45.23%) presented positive bone scan examination for the presence of bone metastasis. 1 patient presented bone metastasis on bone scan having PSA level less than 10ng/mL, and in only 1 patient (5.26%) with bone metastasis PSA concentration was less than 20 ng/mL. therefore, when the cutting point adopted for PSA serum concentration was 10ng/mL, a NPV for bone metastasis was 95% with sensitivity rates 94.74% and the PPV and specificity of the method were 56.53% and 43.48% respectively. When the cutting point of PSA serum concentration was 20ng/mL the observed results for PPV and specificity were (78.27% and 65.22% respectively) whereas NPV and sensitivity stood (100% and 95%) respectively.

Conclusion: We conclude that serum PSA concentration of higher than 20ng/mL was the more accurate cutting point than a serum concentration of PSA higher than 10ng/mL to predict metastasis on bone scan. In this way unnecessary cost can be avoided, since a considerable part of prostate adenocarcinomas present low serum PSA levels less than 20 ng/mL and for these cases bone scan could be unnecessary.

090 P

BRCA 1 GENE MUTATIONS IDENTIFIED IN FORMALIN FIXED PARAFFIN EMBEDDED MUCINOUS OVARIAN TUMORS**SHAISTA GUL****HISTOPATHOLOGY DEPARTMENT, BASIC MEDICAL SCIENCES INSTITUTE, JINNAH POST MEDICAL CENTER, KARACHI, PAKISTAN**

Purpose/Objective: The present study was designed to detect BRCA 1 gene mutations in different histological subtypes of epithelial origin benign, borderline and malignant ovarian tumors.

Material/Methods: This morphological study was based on the analysis BRCA 1 gene mutations in the epithelial origin ovarian tumors including benign, borderline and malignant serous or mucinous ovarian tumors, Endometrioid carcinomas, Clear cell carcinomas, Signet ring carcinomas, Brenner tumors, Mixed müllerian tumors, Poorly differentiated and Undifferentiated epithelial tumors received at the department of Pathology, BMSI, JPMC, from 01-01-2011 to 31-12-2015. A total of 80 diagnosed cases was selected and analyzed for PCR.

Results: BRCA 1 gene mutations were detected in 22% cases out of which Serous cystadenocarcinoma were the commonest including 63% cases. BRCA 1 gene mutations were also detected in other epithelial ovarian tumors including Mucinous cystadenocarcinoma 13.6%, Mucinous borderline tumor 9.09%. Endometrioid adenocarcinoma, Mixed Müllerian tumor and Seromucinous borderline tumors were 4.5% each.

The observations and results of the study were elaborated with the assistance of tables, figures and photomicrographs.

Conclusion: BRCA 1 gene mutations manifestations were identified in a large number of high grade serous malignant ovarian tumor cases. Small percentages of borderline and malignant mucinous tumors, Endometrioid adenocarcinoma and the Mixed Müllerian tumor were also positive for BRCA1 gene mutations.

091 P

ROLE OF UTERINE ARTERY EMBOLIZATION IN TREATMENT OF GYNAECOLOGICAL AND OBSTETRICAL HEMORRHAGE

RAFAY GUL, JAIDEEP DARIRA, KASHIF SHAZLEE, IRFAN LUTFI, KAMRAN HAMEED.

DR ZIAUDDIN UNIVERSITY HOSPITAL, KARACHI. PAKISTAN

Purpose/Objective: Uterine artery embolization is an effective treatment tool for management of gynaecological and obstetrical hemorrhage. Obstetrical hemorrhage i.e post-partum hemorrhage is an emergency and major cause of maternal morbidity. Uterine fibroid is a most common pelvic tumor in women that leads to gynaecological hemorrhage and is responsible for infertility or other adverse pregnancy outcomes.

Material/Methods: We conduct a study to evaluate the utility of uterine artery embolization in the management of gynaecological and obstetrical hemorrhages. It is a retrospective study done on 13 patients at radiology department of Ziauddin University Hospital Karachi during the period from June 2012 to June 2014 in collaboration with department of gynaecology and obstetrics of our institute.

Results: A total of 13 patients underwent uterine artery embolization during this period out of which seven patients had post partum hemorrhage while rest of six patients had gynaecological cause i.e heavy menstrual bleeding and pain secondary to fibroids.

Technical success was defined as the cessation of bleeding on the post embolization angiogram and cessation of vaginal bleeding at speculum inspection performed immediately after uterine artery embolization. Clinical success was said when the bleeding stopped completely after the first course of uterine artery embolization and no additional uterine artery embolization or surgery was required.

Conclusion: We concluded that selective uterine artery embolization is a safe and effective treatment for acute obstetric or gynaecological hemorrhage and should be part of the management algorithm for post-partum hemorrhage and for the treatment of symptomatic fibroids in females who especially want to conserve their uterus.

092 P

CLINICOPATHOLOGICAL REVIEW OF OVARIAN TUMORS PRESENTING TO TERTIARY CARE HOSPITAL**TAYYIBA WASIM****INSTITUTE OF MEDICAL SCIENCES, SERVICES HOSPITAL, LAHORE. PAKISTAN**

Purpose/Objective: Ovarian tumors are common presentation at gynecological OPD. Ovarian cancer is a silent killer & 4th commonest malignancy in females. Differentiation between benign & malignant patients is difficult clinically & definitive diagnosis is by histopathology. Aim of the study was to identify the frequency, compare the clinical symptoms between benign & malignant tumors & also to study various histological types

Material/Methods: It was a case series study. All patients who on abdominal or bimanual examination and abdominal U/S were found to have ovarian cyst or tumor, and later underwent laparotomy were included.

Study Design & Duration : Case Series, 1 & 1/2 years . jun 2014 to Dec 2015

Setting: Gynae department, services Hospital

Results: A total of 80 patients underwent surgery for ovarian tumor during the study period. Malignant tumor were 23(28%), 67% were benign tumors & 3% were borderline tumors. Amongst 23 malignant tumors, 6 were present in <25 years age group, 7 in 25-50 years and 10 were above 50 years. . Mean age of patients with malignancy was 49 years and for benign 36 years (p= 0.0001). Abdominal enlargement and abdominal mass were significantly more in malignant tumors (p=0.003, p= 0.005). The symptoms of abdominal pain, anorexia weight loss were not significantly present in both patients. Family history of cancer was found significantly in patients with malignant tumors. 80% were bilateral tumors & were at stage III. Histopathology of malignant tumors in younger age group was germ cell cancers in 5 patients & krukensberg tumor in 1 patient. Rest of the patients had serous, mucinous cystadenocarcinoma respectively.

Conclusion: Ovarian malignancy is a silent killer, affecting women of all ages. Although presentation is often vague and non specific, symptoms are definitely present. Therefore a proper bimanual examination and appropriate investigations should be done at the outset can result in early detection. Public awareness should be created regarding this menace especially in adolescent girls

093 P

UNILATERAL RENAL AGENESIS WITH SUBSEPTATE UTERUS AND SACROCOCCYGEAL TERATOMA : A UNIQUE TRIAD**HINA PATHAN, MUHAMMAD SAAD AHMED, SHEEZA IMTIAZ, AHMER HAMID, RAHEELA USMAN, MUHAMMAD KASHIF SHAZLEE,****DR. ZIAUDDIN UNIVERSITY HOSPITAL, KARACHI. PAKISTAN**

Purpose/Objective: Unilateral renal agenesis (URA) is a rare condition with reported incidence of 0.93–1.8 per 1000 autopsies. It is frequently associated with other genitourinary anomalies. Different associations have been described in both males and females, but to our knowledge it has not been reported with subseptate uterus (SSU) and sacrococcygeal teratoma (SCT) in a same individual. Here, we present a unique case of unilateral renal agenesis with combined presentation of subseptate uterus and SCT.

Case report: A 1.6 year old female child presented in our radiology department with a palpable mass at lower back with nocturnal enuresis and recurrent urinary tract infections (UTI). On examination, a large mass was present at the lower back. CT scan abdomen and pelvis showed a large heterogeneously enhancing soft tissue density mass centered in presacral space measuring 12.1 x 9.0 x 7.5cm. The uterus showed dilated fluid filled endometrial cavity with a midline partial septum representing a sub-septate uterus. Right kidney was not present in right renal bed and also not seen elsewhere in the abdomen. Biopsy of the mass confirmed Sacrococcygeal Teratoma of yolk sac variety.

Conclusion: We report an unusual presentation of unilateral renal agenesis with subseptate uterus and sacrococcygeal teratoma (SCT). Further exploration of this manifestation needs to be done in future to understand this unusual presentation and association

094 P

EXTRASKELETAL EWING'S SARCOMA OF LABIA MAJORA WITH CRANIAL METASTASIS: A CASE REPORT**S. IMTIAZ, M. S. AHMED, K. SHAZLEE, S. FATIMA, K. HAMEED****ZIAUDDIN UNIVERSITY HOSPITAL, KARACHI. PAKISTAN**

Purpose/Objective: Sarcomas account for about 2% of all cancers and only 1–3% of all malignant neoplasms with vulvar location. Ewing family of tumours (EFTs) are extremely rare in the vulva and vagina, with only 17 previously reported cases. EFTs along with metastasis are even more rare. We here report Primary Ewing's sarcoma of labia majora in a 12 year old girl and its first constellation with cranial metastasis.

Case report: A 12 year old girl with no significant medical history presented with a large painless vulvar mass involving the right labia majora. Initially, it was treated as a large Bartholin cyst. As the size increases MRI Pelvis was done. A large exophytic lobulated soft tissue lesion was seen arising from right labia majora crossing the midline and causing pressure effect over the left labia majora. Multiple enlarged lymph nodes were also present involving bilateral inguinal and right external iliac chain. Radiological findings were suspicious of a neoplastic mass lesion and biopsy of the lesion was recommended that confirmed Extraskeletal Ewing's Sarcoma of vulva. 3 months later she developed a large infiltrating mass lesion involving right frontal bone with intracranial extraxial and extracranial soft tissue component representing metastasis.

Conclusion: Sarcomas of the vulva are rare malignant neoplasms which often lead to misdiagnosis. They are characterized by non-specific clinical manifestations, aggressive behavior, high metastatic potential, and mortality. It is important to consider vulvar sarcomas in the differential diagnosis of non-specific vulvar lesions in order to establish an early accurate diagnosis and appropriate treatment.

095 P**GROWING TERATOMA SYNDROME IN OVARIAN GERM CELL TUMORS - A DIAGNOSTIC CHALLENGE TWO CASE REPORTS****AYESHA SABA 1****AGA KHAN UNIVERSITY HOSPITAL, KARACHI, PAKISTAN.**

Case Reports: Growing teratoma syndrome (GTS) is a rare complication of ovarian germ cell tumors and occurs in young age group. It is characterized by clinical or radiological increase in tumor size during or after chemotherapy, with normalization of tumor 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 tumor 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.

096 P**MATURE CYSTIC TERATOMA SUPRARENAL AREA****SHAHID IQBAL MALIK****CHILDREN HOSPITAL AND INSTITUTE OF CHILD HEALTH LAHORE. PAKISTAN**

Case Report: Teratoma is a tumour with tissues or organ components resembling normal derivatives of more than one germ layer, and contain tissues that may be normal in themselves but quite different from surrounding tissues. Primary adrenal teratomas are exceedingly uncommon accounting for only 4% of all primary teratomas. Radiological investigations are important as adrenal teratoma have no specific clinical findings. Herein we report a case of mature cystic right suprarenal teratoma in a 11 years old boy who presented with a 1 year history of pain right lumbar area.

097 P

DIAGNOSTIC ACCURACY OF MRI-GUIDED PERCUTANEOUS BIOPSY OF MEDIASTINAL MASSES USING A LARGE BORE MAGNET**SEHRISH ALI****DEPARTMENT OF RADIOLOGY, SHAUKAT KHANUM CANCER MEMORIAL HOSPITAL AND RESEARCH CENTRE LAHORE, PAKISTAN**

Purpose/Objective: This study is to evaluate the diagnostic accuracy and safety of using a wide bore high-field scanner for performing magnetic resonance imaging (MRI)-guided percutaneous biopsy of mediastinal masses.

Material/Methods: This is a retrospective study of 16 consecutive patients (8 male, 8 female; mean age 74 years) who underwent MRI-guided core needle biopsy of a mediastinal mass between February 2010 and January 2014. Size and location of lesion, approach taken, time for needle placement, overall duration of procedure, and post-procedural complications were evaluated. Technical success rates and correlation with surgical pathology (where available) were assessed.

Results: Target lesions were located in the anterior (n = 13), middle (n = 2), and posterior mediastinum (n = 1), respectively. Mean size was 7.2 cm (range 3.6–11 cm). Average time for needle placement was 9.4 min (range 3–18 min); average duration of entire procedure was 42 min (range 27–62 min). 2–5 core samples were obtained from each lesion (mean 2.6). Technical success rate was 100 %, with specimens successfully obtained in all 16 patients. There were no immediate complications. Histopathology revealed malignancy in 12 cases (4 of which were surgically confirmed), benign lesions in 3 cases (1 of which was false negative following surgical resection), and one inconclusive specimen (treated as inaccurate since repeat CT-guided biopsy demonstrated thymic hyperplasia). Sensitivity, specificity, positive predictive value, negative predictive value, and accuracy in our study were 92.3, 100, 100, 66.7, and 87.5 %, respectively.

Conclusion: MRI-guided percutaneous mediastinal biopsy has high diagnostic accuracy and it is a safe procedure, which may offer a non-ionizing alternative to CT guidance.

098 P

A HEAD TO HEAD ANALYSIS OF ENDOSCOPIC ULTRASOUND AND ENDOBRONCHIAL ULTRASOUND-GUIDED FINE-NEEDLE ASPIRATION OF SUB-CARINAL LYMPHADENOPATHY

NASEEMA ALI, SHAFQAT MAHMOOD, ASIF LOYA, M. AASIM YUSUF

SHAUKAT KHANUM CANCER MEMORIAL HOSPITAL AND RESEARCH CENTRE LAHORE,
PAKISTAN

Purpose/Objective: EUS-FNA and EBUS-FNA have emerged as safe and cost effective modalities with high diagnostic yield for the tissue diagnosis of mediastinal lymph nodes.^{1, 2} Very few studies have compared the diagnostic utility of these two tests in sub-carinal lymphadenopathy.³ At SKMCH&RC, EUS-FNA has been performed routinely for thirteen years, whereas EBUS-FNA was introduced only four years ago. The aim of this study was to compare both modalities and assess their diagnostic accuracy.

Material/Methods: In this retrospective cross sectional study, data were collected from 130 consecutive patients [68 males; mean age 49, range 8-87] who underwent either EBUS guided FNA (n= 49) or EUS guided FNA (n=81) for the diagnosis of sub-carinal lymphadenopathy between February 2013 and August 2015, at Shaukat Khanum Memorial Cancer Hospital & Research Centre, Lahore. Ethical approval was obtained from the institutional review board of the hospital. Data collected included demographics, detailed history and physical examination, indications, procedure details, complications, clinical and radiological follow-up over 1 year and alternative procedures employed to arrive at a tissue diagnosis. Rapid on site evaluation (ROSE) was performed for each patient to confirm sample adequacy before definitive cytopathological analysis. SPSS version 19 was used for storing and analyzing all data.

Results: 22 patients were given general anesthesia (GA) in the EBUS group, while only 5 patients received GA in the EUS group ($p < 0.005$). The median number of passes for the EBUS group was 5, while this was 2 in the EUS group ($p < 0.005$). ROSE reported sample adequacy of 83.7% in the EBUS-FNA group, compared to 96.3% in the EUS-FNA group ($p=0.011$). Diagnostic yield was 55.1% for the EBUS-FNA cohort and 88.9% for the EUS-FNA cohort ($p < 0.005$). 2 patients in the EBUS group developed serious complications while there were none in the EUS-FNA group. The sensitivity, specificity, PPV and NPV of EBUS-FNA 71.8%, 100%, 100% and 52.8% while for EUS-FNA it was 98.4%, 80%, 98.4%, 80% respectively.

Conclusion: Our results show that EUS-FNA is a more cost effective and accurate test for the tissue diagnosis of sub-carinal nodes, as compared to EBUS-FNA. These are complex procedures, with a steep learning curve and heavily dependent on a skilled and experienced team of healthcare providers. We would expect results for EBUS-FNA to improve with increasing experience of this modality.

099 P

PATTERNS OF DRUG INDUCED PULMONARY CHANGES ON HRCT**SAAD KHALIL CHAUDHRY, MUHAMMAD UMER NASIR, IMRAN KHALID NIAZI, AMJAD IQBAL****DEPARTMENT OF RADIOLOGY SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTER, , LAHORE, PAKISTAN.**

Purpose/Objective: Treatment of different types of cancer include a chemotherapeutic protocol. Several drugs are used interchangeably within the protocol used. Some of the drugs used are known to cause pulmonary toxicities. ABVD protocol used for treatment of lymphomas include bleomycin, which is well known for its effects on lungs. Other cytotoxic drugs like cyclophosphamide and methotrexate are known to cause similar side effects. Spectrum of changes produced by these drugs include diffuse alveolar damage (DAD), non specific interstitial pneumonia (NSILD), bronchiolitis obliterans organizing pneumonia (BOOP), pulmonary hemorrhage.

Material/Methods: The purpose of this study was to identify the frequency of patterns of lung changes produced by specific drug. We retrospectively reviewed the electronic records of patients who underwent HRCT, with complaints of dyspnea and changes in pulmonary function test receiving cytotoxic drugs. All patients with no pulmonary changes or changes other than drug induced toxicities were excluded. Data over a period of 1 year and 8 months from 01 January 2015 to 01 September 2016 was collected and data was analyzed on SPSS.

Results: and conclusion: Total of 90 patients showed drug induced changes, more common in females (60%). All these patients have some kind of cytotoxic drug that caused pulmonary toxicity. The most frequently seen pattern was diffuse alveolar damage (40%) followed by NSIP and BOOP. Drug most commonly causing toxicity was cyclophosphamide. It was concluded that the most common pattern of lung injury was diffuse alveolar damage with cyclophosphamide being the most common drug used in these patients.

100 P

TO PROSPECTIVELY COMPARE LUNG WINDOWS AND NEGATIVE MODE IMAGES OF LUNG WINDOWS OF MULTIDETECTOR COMPUTED TOMOGRAPHIC (CT) DATA FOR THE DETECTION OF SMALL INTRAPULMONARY NODULES**MUHAMMAD UMER NASIR; GHANIA MASOOD; IMRAN KHALID NIAZI; AMJAD IQBAL.****SHAUKAT KHANUM CANCER MEMORIAL HOSPITAL AND RESEARCH CENTRE LAHORE, PAKISTAN**

Purpose/Objective: To prospectively compare lung windows and negative mode images of lung windows of multidetector computed tomographic (CT) data for the detection of small intrapulmonary nodules.

Material/Methods: This prospective study included 500 oncology patients (284 women and 216 men; mean age, 45 years, who underwent clinically indicated standard-dose thoracic multidetector CT. Axial thin slices of the chest were reviewed on standard reporting workstation. Mean, minimum, and maximum reading time per examination and per radiologist was documented. Two radiology registrars with four years of experience in body imaging digitally annotated all nodules seen in a way that clearly determined their locations. The maximum number of nodules detected by the two observers and confirmed by consensus served as the reference standard. Descriptive statistics were calculated, with P .05 indicating a significant difference. The McNemar's test and confidence intervals for differences between methods were used to compare the sensitivities of the two methods.

Results: Negative mode images of lung windows performed significantly better than the lung windows with regard to both detection rate and reporting time. The superiority of the former method was significant for both observers and for nodules smaller than 10 mm in diameter. Sensitivities achieved with negative mode images ranged from 89 % to 98%, depending on nodule size.

Conclusion: Negative mode images of lung windows are the superior reading method compared with normal lung windows for the detection of small solid intrapulmonary nodules.

101 P

TRIAGE OF LIMITED VERSUS EXTENSIVE DISEASE ON 18F FDG PET-CT SCAN IN SMALL CELL LUNG CANCER**SAIMA RIAZ¹, HUMAYUN BASHIR¹, IMRAN KHALID NIAZI²****1 DEPARTMENT OF NUCLEAR MEDICINE, 2 DEPARTMENT OF RADIOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN.**

Purpose/Objective: Small cell lung cancer (SCLC) is an aggressive neuroendocrine carcinoma, constitute 10%-15% of lung cancers and exhibits early metastatic spread. This study aims at determining added value of F18 FDG PET-CT in TNM staging of SCLC as compared to conventional CT scan in triage of limited [LD] versus extensive disease [ED], and its potential role as a prognosticator.

Material/Methods: Retrospective review of 23 PET-CT scans performed between October 2009 and December 2015 in histopathologically proven SCLC. Cohen's kappa (κ) was calculated to determine rate of agreement between CT and PET-CT for TNM staging. Median follow up: 8 months (range 3-27months). Kaplan-Meier disease free survival curve was generated for TNM stage.

Results: Data set included 19 males and 4 females [age = 58 years \pm 9SD]. FDG PET-CT identified limited disease [LD] in 2[8.7%] and extensive disease in 21[91.3%] patients. Strong agreement demonstrated between PET-CT and CT for determining T ($\kappa=0.82$), fair for N ($\kappa=0.24$) and poor for the M class ($\kappa=0.12$). PET-CT upstaged disease in 47% with visceral and osseous metastasis. Kaplan-Meier 12 months Disease Free Survival: LD [100%] and ED [23%]. Overall, 8 [35%] patients expired during follow-up.

Conclusion: Improved nodal and metastatic disease identification highlights role of FDG PET-CT in initial staging of SCLC with prognostic implications.

102 P

AN EXPERIENCE OF PRIMARY RESECTION AND RECONSTRUCTION OF 52 CASES OF CHEST WALL MALIGNANT MASSES

FARHAN A MAJEED**COMBINED MILITARY HOSPITAL LAHORE**

Purpose/Objective: The study was carried out to share the experience of procedures on 52 malignant chest wall masses and to determine the morbidity associated with it. Study design: Prospective descriptive study. Place and duration of study: The study was conducted in CMH Rawalpindi Jan 2010 to Aug 2013

Material/Methods: Total number of cases operated for chest wall malignant masses were 52. Recurrent breast carcinoma proven histologically and malignant masses of chest wall were included in study. Resection of malignant chest masses with reconstruction included only those patients with no metastatic disease.

Results: 52 chest wall malignant masses included in study. 32(61.5%) out of 52 cases were of malignant masses and 20(38.4%) were of recurrent breast carcinomas. 8(15.3%) were of Ewing sarcoma, osteosarcoma were 8(15.3%) and chondrosarcomas were 3(3.84%). Transfusion was required in 46(88%) of the cases. There was no

perioperative mortality. 11(21.1%) patients had formation of seroma. 6(11.5%) had surgical site infection which was treated conservatively.

Conclusion: Chest wall masses treated with wide excision of portion of chest wall along with ribs and reconstructed with prolene mesh augmented with local muscular flaps can be considered a safe and effective procedure with acceptable morbidity and mortality

103 P

CERVICAL MEDIASTINOSCOPY IN THE DIAGNOSIS OF LYMPHADENOPATHY IN SOUTH ASIA**SULAIMAN BASHIR HASAN, FAZAL WAHAB KHAN, SHIRAZ HASHMI AND SYED SHAHABUDDIN****AGA KHAN UNIVERSITY HOSPITAL, KARACHI. PAKISTAN**

Purpose/Objective: We aimed to determine the clinical utility and safety of Mediastinoscopy in the pathologic diagnosis of mediastinal lymphadenopathy and to examine the disease patterns in a tertiary care setting in Karachi.

Material/Methods: This is a retrospective review of patients, who underwent mediastinoscopy at a private university hospital in Karachi between July, 1990 and August, 2015. The information on patient characteristics, indication for mediastinoscopy, presenting complaints, pre-op radiological findings, stations of lymph nodes biopsied, post-operative complications, length of hospital stay and final diagnosis on the histopathology were recorded. Patients with incomplete records were excluded.

Results: A total of 122 patients underwent Mediastinoscopy; 88 had complete records and were included in the analysis. Mean age was 42.5(±12.9) years and 62.5% were male. Histopathology findings revealed that 60 (68.2%) patients had benign inflammatory diseases. Of these, 26 (29.5%) diagnosed with TB, 13 (14.8%) Sarcoidosis; 11 (12.5%) had concomitant TB and Sarcoidosis and 7 (8%) had benign reactive changes, 3 (3.4%) had Anthracosis. Three specimens (3.4%) remained unspecified.

Twenty five (28.4%) had lymphoma or lung cancer which was accurately staged. Four patients had lymphoma, 2 Hodgkin's and 2 Non-Hodgkin's. Among the malignant cases, 21/25 (84%) had bronchogenic carcinoma. Nine (42.9%) of the lung cancer patients had adenocarcinoma, 5 (23.8%) had squamous cell carcinoma, 3 (10.7%) had large cell carcinoma and 3 (10.7%) had unspecified non-small cell lung cancer (NSCLC). Thirteen of 21 lung cancer patients (62%) had N2 or N3 disease and were spared an unnecessary thoracotomy. No mortality or significant morbidity occurred in our series.

Conclusion: Mediastinoscopy is a safe and reliable procedure with minimal morbidity, usually done in outpatient surgery. It is a useful procedure in staging bronchogenic carcinoma and influenced the management in this series. It was found to be accurate in the diagnosis of other malignant as well as benign mediastinal pathologies, all of which were treatable.

104 P

INCIDENCE OF MALIGNANCY IN CERVICAL MEDIASTINOSCOPY BIOPSY OF 232 MEDIASTINAL LYMPHNODES; A PARADOX TO WESTERN LITERATURE**SULAIMAN BASHIR HASAN****AGA KHAN UNIVERSITY HOSPITAL, KARACHI. PAKISTAN**

Purpose/Objective: To assess the outcome of cervical mediastinoscopic biopsy for diagnosis of indeterminate visceral mediastinal lymphadenopathy and for staging for lung cancer.

Material/Methods: 232 patients, most of them referred by pulmonologists during from Jan 2010 to Aug 2013 were submitted to lymph node biopsy through cervical mediastinoscopic approach. Age, gender, socioeconomic status, clinical presentation, findings on CT scan chest, result of histopathologic evaluation of sampled nodes and complications were studied.

Results: Out of 232 patients, 150(65%) were male and 82(35%) female. Mean age of patients was 44 years ranging from 17 to 70 years. Cough, fever and dyspnea were the most common presenting symptoms. Of patients operated for diagnostic purpose (n=196), 107(55%) had tuberculosis and 33 (17%) sarcoidosis. 44 patients (22%) were diagnosed to have malignancy. 2 patient developed hoarseness of voice while 3 patient had hemorrhage which was managed with packing. SSI was in 7% of the cases.

Conclusion: Cervical mediastinoscopy is a safe and efficacious means of diagnosis in indeterminate mediastinal lymphadenopathy and staging of Ca Lung. Histopathological diagnosis and tissue cultures are crucial in our setting where patients with neoplastic lymphadenopathy are sometimes treated for tuberculosis or sarcoidosis on clinical suspicion alone. Moreover, staging of Lung Cancer is essential as N2 disease precludes curative surgery. Our results support the continued routine use of mediastinoscopy.

105 P

MUCOEPIDERMOID CARCINOMA OF THE LUNG: A RARE TUMOR- CASE REPORT.**Shafaq Maqsood****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE,
PAKISTAN.**

Purpose/Objective: The objective of reporting this case on Pulmonary Mucoepidermoid Cancer is not only the rare frequency of this carcinoma but also to highlight the importance of adequate pathological and immunohistochemical analysis in establishing the diagnosis. We also reviewed the response of disease to systemic chemotherapy (Carboplatin and Paclitaxel).

Case report: Mucoepidermoid Carcinoma (MEC) of the lung is a rare pulmonary cancer that accounts for 0.1 to 0.2 % of lung tumors . It is defined by the World Health Organization as a tumor comprising of mucus secreting, squamous and intermediate cells. It equally affects both genders with the median age of presentation at 40 years. Mucoepidermoid Carcinoma can be low grade or high grade. Surgical resection remains the standard treatment for pulmonary MEC of any grade. Studies have not shown any role of adjuvant chemotherapy, radiotherapy or targeted therapy in low grade MEC. Prognosis of low grade MEC is excellent with 5 year survival of 95%.

In contrast, high grade MEC carries a poor prognosis and adjuvant therapy is warranted. However, there are no established effective measures. Targeted therapy in the form of tyrosine kinase inhibitor gefitinib has been reported to be efficacious in patients exhibiting Epidermal growth factor receptor(EGFR) mutations. Role and choice of chemotherapeutic agents is not well established but there are case series and case reports showing efficacy to treatment with carboplatin and paclitaxel.

We present a case report on a 25 year old female who presented with cough and hemoptysis. Initial biopsy showed poorly differentiated squamous cell carcinoma. Post pneumonectomy, histological review of resected specimen showed Mucoepidermoid Carcinoma, high grade with a pathological stage of pT2aN2. Diagnosis was established after immunohistochemical analysis which showed positive P63, negativeTTF1 and positive Mucicarmine. She has recieved six cycles of chemotherapy and is now on surveillance.

Conclusion: Rare tumors pose a challenge to the pathologist and oncologist both in terms of diagnosis and treatment respectively. Mucoepidermoid carcinoma of the lung is one such entity. Literature review is available mainly in the form of case reports and hence there are no established chemotherapy protocols. We report a case of high grade MEC with lymph node metastasis in which the diagnosis was made after the surgical resection. Based on case reports, we decided to choose carboplatin and paclitaxel. The patient has done well so far during chemotherapy and the disease has responded. The significance of this case report is to highlight the importance of immunohistochemical analysis in diagnosing this infrequent tumor. Another important aspect is to review response to Carboplatin and Paclitaxel as a potential treatment option.

106 P

**PRIMARY ADENOID CYSTIC CARCINOMA OF THE LOWER RESPIRATORY TRACT-
A SINGLE INSTITUTIONAL REVIEW****FATIMA BATOOL, SUMERA BUTT, SYED ATHER SAEED KAZMI,****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE,
PAKISTAN.**

Purpose/Objective: Primary Adenoid Cystic Carcinoma of the respiratory tract, arising from the bronchial glands is a particularly rare disease and accounts for only 0.04–0.2% of all lung tumors. ACCL has a high tendency for local recurrence and late hematogenous metastases. We are reporting our experience from single institution during the period between May 2000 and March 2016. To report Survival and outcome of patients with adenoid cystic carcinoma of respiratory tract treated at our institution.

Material/Methods: 10 patients were diagnosed as having adenoid cystic carcinoma of the respiratory tract from May 2000 till June 2016. The medical records were reviewed in order to extract data on demographic characteristics, clinical and pathological features, tumor stage, treatment and survival. Statistical analysis was performed using the SPSS.

Results: There were total 10 patients with 6 males and 4 females. The age range was 31-59 years. Four patients had their primary lesion located in upper Trachea, 3 in distal trachea, 3 in left main bronchus and 1 patient presented with metastatic disease to lung and bones. Total 5 patients underwent upfront surgery with complete excision in 3 patients with clear margins and 2 had debunking only. All five patients had adjuvant Radiotherapy with biologically effective dose of 60Gy. 5 patients were treated with Primary Radiotherapy with biologically effective dose of greater than 60Gy. Overall 5-year survival was 85%. Patients treated with surgery followed by adjuvant radiotherapy and patients with primary radiotherapy had 5 year survival of 65%.

Conclusion: Adenoid cystic carcinoma of the Lung is a rare disease and surgery remains the main treatment options however radiotherapy remains an effective option for the patients with inoperable disease and 5 year survival remains equivalent to surgery.

107 P

FREQUENCY OF DEL 17P BY FISH ANALYSIS IN CHRONIC LYMPHOCYTIC LEUKAEMIA

Rafia Mahmood, Saleem Ahmed Khan, Chaudhry Altaf, Parvez Ahmed

Purpose/Objective: Genetic molecular factors have a role in determining the prognosis of chronic lymphocytic leukemia (CLL) patients and 17p deletion is associated with the worst prognosis. The deletion involves the p53 locus at 17p13. It is the loss of p53 function in CLL that contributes to disease progression, poor response to conventional treatment and a shorter survival. Therefore, these patients pose a serious challenge as they require alternative therapeutic regimens, targeted therapy and novel agents. Detection of 17p deletion will help to initiate early treatment to prevent disease progression and to tailor the treatment to improve survival.

To determine the frequency of 17p deletion in newly diagnosed chronic lymphocytic leukemia patients.

Study Design: Descriptive cross sectional study.

Material/Methods: The study was conducted in the Department of Haematology, Armed Forces Institute of Pathology, Rawalpindi, from February 2015 to February 2016. CLL was diagnosed on International Workshop on CLL (IWCLL) criteria. Molecular genetic analysis was performed using fluorescent in situ hybridization.

Results: A total of 66 patients were included in the study. Out of these, 49 (74.2%) were males while remaining 17 patients (25.8%) were females. Mean age was 62.18 ± 5.30 years. Del 17p was detected in 18.2% of the patients. Mean absolute lymphocyte count was 89.12 ± 38.06 .

Conclusion: The presence of del17p13 in chronic lymphocytic leukaemia was observed in 18.2%.

108 P

QUANTITATIVE ESTIMATION OF BCR-ABL1 FUSION GENE RNA IN PATIENTS OF CHRONIC MYELOID LEUKEMIA (CML) UNDERGOING TREATMENT WITH TYROSINE KINASE INHIBITORS.**FAIQA ASLAM ,CH. ALTAF HUSSAIN, HAMID SAEED MALIK, PARVEZ AHMED****ARMED FORCES BONE MARROW TRANSPANT CENTER, RAWALPINDI, PAKISTAN**

Purpose/Objective: Targeted tyrosine kinase inhibitor treatment with Imatinib , nilotinib, dasatinib, bosutinib and ponatinib is the cornerstone of modern therapy for CML. Real time quantitative PCR of BCR-ABL1 RNA is a most sensitive laboratory technique for monitoring the efficacy of tyrosine kinase inhibitor therapy and quantitative assessment of minimal residual disease. The molecular response measured by BCR-ABL1 real time qPCR assists in identification of suboptimal response and thus help in timely decision to switch to alternative therapies that may be more effective. Futhermore , the tyrosine kinase inhibitor- mediated- molecular response provides valuable risk stratification and prognostic information on long term outcomes.

To assess the response of treatment with tyrosine kinase inhibitors in patients of chronic myeloid leukemia with quantitative estimation of BCR-ABL 1 fusion gene RNA.

Material/Methods: Cross sectional study

A total of 18 patients were analyzed in the Department of Haematology, Armed Forces Institute of Pathology, Rawalpindi from January 2016 to July 2016. Patients of CML—chronic phase were included who were BCR-ABL positive and planned to be put on TKIs as first line therapy. BCR-ABL quantification was done on Gene Xpert BCR-ABL monitor assay.

Results: A total of 18 newly diagnosed patients of CML in chronic phase were analysed for quantitative BCR-ABL1 at 0, 3 and 6 months from start of treatment. At 3 and 6 months 88.8 % of patients (n=17) showed optimal response , while 5.55% (n=1) failed to respond to Imatinib ,so switched to second generation, according to ELN 2013 guidelines.

Conclusion: Quantitative estimation of BCR-ABL fusion gene is essential in monitoring optimal response to TKIs

109 P

OUTCOME OF CHEMOTHERAPY IN NON-APL ACUTE MYELOID LEUKEMIA PATIENTS: AN EXPERIENCE AT TERTIARY CARE CENTER**ANDLEEB HANIF¹, NIGHAT SHAHBAZ¹, PARVEZ AHMED^{1,2}, TARIQ M SATTI¹, QAMAR UN NISA CHAUDHRY¹, KAMRAN MEHMOOD¹, TARIQ GHAFOOR¹, MEHREEN ALI KHAN¹, RAHEEL IFTIKHAR¹, NADIA SIAL¹, HUMAYUN SATTI¹, IMTENAN SHARIF¹, KHAZIMA MUAZIM¹****INSTITUTE: ¹ARMED FORCES BONE MARROW TRANSPLANT CENTRE (AFBMT), ²ARMED FORCES INSTITUTE OF PATHOLOGY (AFIP), RAWALPINDI, PAKISTAN**

Purpose/Objective: To explore outcome of chemotherapy for the management of non-APL acute myeloid leukemia (AML) patients.

Material/Methods: Two hundred eighty seven patients with non-acute promyelocytic AML, less than 70 years of age, were randomized to standard induction chemotherapy comprising 2 courses of anthracycline (3 x daunoblastin 45-60mg/m²/idarubicin 10-12 mg/m²) plus cytarabine (100-200 mg/m² continuously or twice daily x 7 days). Poor risk or relapsed cases were given FLAG-Ida for induction. Post remission consolidation chemotherapy was given to 107 patients. It consisted of 2-3 courses of HiDAC (cytarabine 3g/m² x 6 doses) in 79 cases while high risk patients received FLAG-Ida. Other regimens used for consolidation included M5E5 (5 x mitoxantrone 12 mg/m² plus etoposide 200 mg/m²) MAE10 and ICE.

Results: Complete response (CR) after 2 courses of induction therapy was 73%, with better outcome for anthracycline based therapy (p value=<0.01). Out of 107 patients who were given consolidation therapy, 65% achieved complete remission (CR) and 17% of these relapsed subsequently. Only 86 patients completed consolidation therapy with the follow up of one to five years after completion of treatment. Out of these 86 patients, 70% achieved CR with better outcome for HiDAC (CR=71%; PR=1% & NR=28%) as compared to patients who received FLAG-Ida (CR=55.6%; NR=44.4%, p value= 0.1). Moreover patients who received HiDAC had better disease free survival (DFS=57%) than FLAG-Ida or other regimens (DFS=33%) with the p value of 0.1. Majority of the patients experienced grade 3 or 4 myelosuppression after each intensification. Ten patients underwent allogeneic bone marrow transplant, out of that 7 (70%) patients achieved CR, while three patients died (2 due to conditioning toxicity, 1 with severe acute GVHD).

Conclusion: A significant number of patients with AML can be saved provided proper risk adapted chemotherapy is given. Standard D3A7 inductions followed by 2-3 cycles of consolidation with HiDAC are associated with better overall and disease free survival.

110 P

ACUTE PROMYELOCYTIC LEUKEMIA: A SINGLE CENTER STUDY FROM SOUTHERN PAKISTAN

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Purpose/Objective: Acute promyelocytic leukemia (APL) is a distinctive clinical, biological and molecular subtype of acute myeloid leukemia, characterized by arrest in differentiation at the promyelocyte stage owing to a distinct chromosomal translocation t(15;17). However, data from Pakistan are scarce. Therefore we reviewed the demographic and clinical profile along with risk stratification of APL patients at our center.

Material/Methods: We retrieved the data of all patients with confirmed diagnoses of APL from January 2011 to June 2015. In this descriptive cross sectional study, 26 patients with acute promyelocytic leukemia were enrolled. Patients were stratified according to Gruppo Italiano Malattie Ematologiche dell'Adulto (GIMEMA) and PETHEMA studies.

Results: The mean age was 31.8 ± 1.68 years with a median of 32 years. The female to male ratio was 2:1.2. The majority of our patients had hypergranular variant (65.4%) rather than the microgranular type (34.6%). The major complaints were bleeding (80.7%) followed by fever (76.9%), generalized weakness (30.7%) and dyspnea (15.38%). Physical examination revealed petechial rashes as a predominant finding detected in 61.5% followed by pallor in 30.8%. The mean hemoglobin was 8.04 ± 2.29 g/dl. The mean total leukocyte count of $5.44 \pm 7.62 \times 10^9/l$; ANC of $1.08 \pm 2.98 \times 10^9/l$ and mean platelets count were $38.84 \pm 5.38 \times 10^9/l$. According to risk stratification, 4 (15.3%) patients were in high risk; 17 (65.38%) patients in intermediate risk, while 5 (19.23%) patients in low risk group.

Conclusion: Clinico-epidemiological features of APL in Pakistani patients appear comparable to published data; however, disease is seen in younger population. Haemorrhagic diathesis is the commonest presentation. Risk stratification revealed predominance of intermediate risk disease.

111 P

APPROACH TO IMMUNOCOMPROMISED PATIENTS WITH NEUTROPENIC FEVER UNDERGOING BONE MARROW TRANSPLANTATION**RABIA SHAHID, TARIQ MEHMOOD SATTI, QAMAR-UN-NISA CHAUDHRY, SYED KAMRAN MAHMOOD, IFFAT HUMA, TARIQ GHAFOOR, MEHREEN ALI KHAN, RAHEEL IFTIKHAR, NAJMA MASKEEN, KHAZIMA MUAZIM****ARMED FORCES BONE MARROW TRANSPLANT CENTRE RAWALPINDI, PAKISTAN**

Purpose/Objective: To assess occurrence, frequency and microbiological characteristics of febrile neutropenia (FN) in bone marrow transplant patients and evaluating their response to antibiotics.

Material/Methods: Prospective sampling was carried out from May 2015 to Feb 2016. Data variables such as patient's age, disease, duration of FN and types of antibiotics used. All the patients experiencing FN were assessed for bacterial growth. All the patients received oral antibiotics and antifungal as antimicrobial prophylaxis.

Results: About 50 patients with FN were identified in this time period. This cohort contained 44 patients who underwent allogenic transplant and 6 autologous transplant. Among these 28 were Beta thalassemia patients, aplastic anaemia (n=10), Acute myeloid leukaemia (n=9) and others (n=3). Mean age of the patients was 14 years (range 2 months – 55 years). Male to female ratio was 31:19. Mean duration of FN was 5.5 days (range 1 – 13 days). First line antibiotics used were tazobactam/ Piperacillin & amikacin. Whereas second line antibiotics were meropenem, teicoplanin and Amphotericin B. Tazobactam/Piperacillin was given to n=24 patients and meropenem was given to n=26 patients. Amikacin was received by n=40 patients. Patients with prolonged FN received teicoplanin n=22 and amphotericin B n=23. Among 23 patients, 8 patients were non responder to first line antibiotics therefore were given second line therapy. All of these patients were subjected to go through microbiological testing to determine the suspected cause of FN. Blood cultures of 40 patients were negative for any kind of bacterial involvement. Bacterial involvement was found positive in 10 patients. Clinically significant isolates from blood culture were of coagulase negative Staphylococcus, Klebsiella, Acinetobacter johnsonii and Acinetobacter baumannii.

Conclusion: Management of FN immunocompromised patients is one of the daunting task for BMT nursing. In this regard choice of effective and required antibiotic is essential. 64 % of immunocompromised FN patients undergoing bone marrow transplant responded to second line antibiotic. Therefore adapting second line antibiotic therapy is an effective approach for BMT patients.

112 P

SAFE MANAGEMENT OF CENTRAL VENOUS CATHETERS IN PATIENTS UNDERGOING CHEMOTHERAPY AND STEM CELL TRANSPLANTATION**NAJIA GUL, TARIQ MEHMOOD SATTI, QAMAR-UN-NISA CHAUDHRY, SYED KAMRAN MAHMOOD, IFFAT HUMA, TARIQ GHAFOOR, MEHREEN ALI KHAN, RAHEEL IFTIKHAR, KHAZIMA MUAZIM****ARMED FORCES BONE MARROW TRANSPLANT CENTRE RAWALPINDI, PAKISTAN**

Purpose/Objective: Primary objective was to investigate and evaluate placement conditions and associated complications of CVC in patients undergoing chemotherapy and stem cell transplantation (SCT) for various haematological disorders at Armed Forces Bone Marrow Transplant Centre Rawalpindi, Pakistan.

Material/Methods: Sampling was carried out from January 2002 to August 2016. Data variables such as patient's age, disease, types of catheters used for CVC placement, administration of anesthesia, reason for CVC placement were recorded. Whereas in case of associated complications microbial culture was performed to identify causative microorganism.

Results: A total of 1253 CVCs were placed during study period. Indications for CVC placement were SCT (n=417), intensive chemotherapy (n=541) and miscellaneous reasons (n=295) like antimicrobials delivery, apheresis, administration of anti-thymocyte globulin (ATG) and parenteral nutrition. Median age of the patients was 21 years (range 2 – 72). Mean duration of CV catheterization was 29 days (range 1 – 151). Types of catheter used included Polyurethane (n=1215), Hickman (n=30), Porta Cath (n=6) and PICC (n=2). Subclavian vein was most common site for CVC placement (n=906), followed by internal Jugular vein (n=347). Eight hundred and eighty five procedures were done under local anaesthesia whereas general anaesthesia was used in 368 cases. Number of attempts made for successful placement was one in 865 cases, two in 280, three in 108 cases and four in 39 cases. In twenty one cases the CVC required re-adjustment due to mal-positioning and removal in 276 cases for suspected line infection or other complications. Various complications observed were systemic infection (n=213), positional flow (n=63), leakage (n=33), catheter colonization (n=23), bleeding (n=21), blockage (n=46), accidental removal (n=13), malpositioning (n=5), and pneumothorax (n=3). In rest of the cases the line was removed on completion of treatment. Clinically significant isolates from blood culture were Staphylococcus, Pseudomonas, E. coli and Klebsiella. CVC tip culture tested positive in 39 cases, with predominant organism being Staphylococcus (n=21).

Conclusion: Placement of CVC is a necessary evil in transplant and intensive chemotherapy setting although it is associated with significant rate of complications. However the usefulness of CVC line placement can be made safe and effective with strict aseptic handling.

113 P

INCIDENCE, PATTERNS AND OUTCOMES OF TUMOR LYSIS SYNDROME IN ADULTS- A SINGLE CENTRE RETROSPECTIVE STUDY1

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Purpose/Objective: Tumor Lysis Syndrome (TLS) is a common oncologic emergency and is associated with high morbidity and mortality, if not recognized and treated promptly. It occurs due to massive destruction of cancer cells resulting in release of intra-cellular metabolites into blood stream. Pre-existing volume depletion or renal dysfunction increases risk of TLS and associated complications such as cardiac arrhythmias, seizures and death. TLS can occur either spontaneously or following chemotherapy.

We reviewed incidence and outcomes of tumor lysis syndrome in a selected group of adults with hematological malignancies and germ cell tumors receiving treatment at our center. In addition we studied need for renal replacement therapy and outcomes in this group

Material/Methods: We performed a retrospective review of inpatient records of 17 incident adult patients (aged > 18 years old) with hematological or germ cell cancers, who had a diagnosis of tumor lysis syndrome identified by hospital medical information system (MIS), between January 2015 and July 2016. Laboratory TLS and Clinical TLS were defined using Cairo-Bishop criteria for TLS.

Results: Laboratory TLS was identified in 16 patients (94%) and clinical TLS was seen in 8 patients (47%). 13 patients (76%) developed spontaneous TLS. Majority were male, with acute leukaemias being the commonest, seen in 6 patients (36%). 4 patients had Germ cell tumor (23%) and rest of the group had miscellaneous lymphomas. 15 patients (88%) presented via emergency department. All the patients received aggressive hydration and allopurinol. 7 patients (41%) required intensive care unit monitoring. 21% patients developed complications. Only one patient (6%) required RRT (CVVH). 5 out 8 (62%) patients with clinical TLS, died. Overall mortality was 35%.

Conclusion: TLS in adults is seen in acute leukaemias and germ cells tumours. Our study population is too small to comment on incident for each haematologic malignancy. Delayed presentation, symptomatic metabolic abnormalities and severe AKI were associated with worst outcome

114 P

RE-EVALUATING FGFR4(G388R) GERMLINE MUTATION IN LEUKEMIA PATIENTS FROM LOCAL POPULATION.**Fatima Tahir****Dept of Zoology. GCU Lahore. PAKISTAN**

Purpose/Objective: Existing evidence suggests that cancer is a life threatening complicated disease that arises because of wide-ranging factors associated with cellular malfunctioning and environmental influences. Compiling the effect of these internal and external stresses which cause disruptions in cellular signaling and its optimized generated mechanisms. An important gene, FGFR4, is reported to be involved in carcinogenesis and misleading of controlled signal transductions. In Pakistani population there is not sufficient evidence which emphasizes the relationship between FGFR4(G388R) germline mutation, and its occurrence, survival as well as spread with relevance to carcinogenesis. The current study is based on the re-evaluation of FGFR4(G388R) germline mutation among leukemia patients belonging to inter- and intra-ethnic variability, specifically from Pakistani population in the time period of 7 months from January - July, 2015.

Material/Methods: Blood samples from patients and control groups were taken in ACD vaccutainers. DNA extraction was done and amplified for target DNA fragment spanning SNP allelic region with optimized PCR using 5'- GACCGCAGCAGCGCCCGAGGAAGG-3' and anti-sense: 5'- AGAGGGAAGCGGGAGAGCTTCTG- 3' primers. Further, amplified DNA fragment was digested using BsTN1 restriction enzyme which yielded fragments of different sizes according to the cleaved point. Chi-square test resulted in the following p-values: GG : 0.67, AG : 0.86, and AA : 0.96, revealing statistically insignificant association with cancer prognosis in the local population.

116 P

CASE REPORT; HODGKIN'S LYMPHOMA WITH BRAIN PARENCHYMAL INVOLVEMENT.**SHEERAZ ALI, ABDUL HAMEED.****MEDICAL ONCOLOGY, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE LAHORE, PAKISTAN**

Purpose/Objective: Hodgkin's Lymphoma (HL) is curable malignancy. Intracranial HL is considered atypical, occurring at a frequency of 0.2 to 0.5% of all cases in advanced stages of the disease. The infrequency of this disease entity makes noting patterns in disease characteristics, information on prognosis, and therapeutic decision making difficult. CNS involvement occurs most frequently in the face of relapsing disease but we are describing here a patient with systemic HL who presented with disease in the CNS from the onset.

Case report: A 20-year-old male who as previously well, presented in October 2013 with 3 months history of fever, headache, left eye impaired vision, exertional breathlessness, upper torso adenopathy. Image guided trucut biopsy of mediastinal mass showed presence of CD30-positive and CD15-positive. He had Stage IV-BXES disease with 17.5 cm anterior mediastinal mass with hepatic, osseous & muscle involvement. Brain imaging showing extra-axial dural based mass involving both cerebral and cerebellar hemispheres with associated diffuse homogenous post contrast enhancement and mass effect. He attained metabolic complete remission after 6 cycles of ABVD & 3 cycles of high dose MTX till July 2014 followed by consolidative radiation to mediastinum till September 2014. After 1 year, he relapsed with histopathological proven stage IV disease with left lung, osseous and right parietal lobe lesion. He was switched to salvage cisplatin, Ara-C, prednisolone with high dose methotrexate with partial response elsewhere after two cycles but new C1 para vertebral mass lesion. He undergone craniotomy and right parietal lesion biopsy in April 2016 showed CD 30 + , PAX 5 + Classic HL. He was switched to ESHAP and high dose methotrexate and Ara-C. He is so far 2 cycles of ESHAP and 3 cycles of HD MTX/HD Ara-C and is planned for reevaluation scans.

Conclusion: Central nervous system involvement in Hodgkin's lymphoma is an uncommon complication, with a short survival. In most of published cases, the location of lesions was supratentorial but we have found supra and infratentorial involvement in our case. No defined guidelines exist about the management of this entity. Further Research is required to determine the management of these types of patients.

117 P

DIFFUSION LUNG CAPACITY CHANGES IN BLEOMYCIN OMITTED HODGKIN LYMPHOMA PATIENTS ON ABVD CHEMOTHERAPY**M. ABDULLAH, K. Y. RAHMAN, A. ALI, A. HAMEED****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

Purpose/Objective: Diffusing lung capacity of Carbon Monoxide (DLCO) changed in those patient in which belomycin omitted as clinical symptoms cough and dyspnea appeared.

To evaluate Diffusion lung capacity changes in bleomycin omitted patients of HL (Hodgkin lymphoma) on ABVD chemotherapy.

Material/Methods: Medical records of all adult HL patients treated with ABVD at a single center in Lahore, Pakistan during 2012 were analyzed. Patients with history of thoracic surgery, Age <18 years and smokers were excluded.

Results: A total of 26 from 179 HL, patient were identified during the study. Males were 69.2 %(18) and females 30.8 %(8). Cough developed in 57.7 %(15) and dyspnea also present in 50 %(15) patients. When hemoglobin (Hg) adjusted for DLCO (DLCO-Hg), severe dysfunction developed in 15.1 %(4), moderate 23.1% (6), Mild 23.1% (6). But Moderate dysfunction presented in 11.5 %(3), Mild 38.5% (10) while other were normal in alveolar and Hg adjusted DLCO (KCO). 23.3 % (6) patients have suspicion of bleomycin induced toxicity on CT scan. There is significant difference in DLCO (P<0.05), DLCO-Hg (P<0.05) and KCO (P<0.05). Correlation exists between cough, dyspnea and DLCO, DLCO-Hg, KCO in those patient who received bleomycin dose >100 mg/m².

Conclusion: Diffusion Lung capacity significantly changed in bleomycin omitted patient. DLCO-Hg, KCO and clinical symptoms (dry cough, dyspnea) can be utilized for safe management.

118 P

PICTORIAL REVIEW OF EXTRAOSSEOUS EWING S TUMOR; A SINGLE CENTER EXPERIENCE IN PAKISTAN.**KHAIR MUHAMMAD, MUHAMMAD BILAL FAYYAZ, IMRAN KHALID NIAZI, AMJAD IQBAL****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH HOSPITAL, LAHORE, PAKISTAN**

Purpose/Objective: Ewing Family Of Tumor is an exceedingly rare tumor, with annual incidence rates among Caucasian children less than 21 years being in the range of 2-3 cases per million in the U.S. There are mainly three subtypes of ESFT including Ewing sarcoma of bone, extraosseous Ewing tumor and Peripheral primitive neuroectodermal tumor (PPNET). Although extremely rare, this study represents annual review of various types of cases and the significance of imaging including its baseline and post treatment response radiological characteristics. In young people who present with soft-tissue tumors, EOS should be considered. In the management of patients with tumors, imaging techniques are useful for biopsy guidance, evaluating the possibility of resection, and tumor response to treatment.

Material/Methods: Electronic records were retrospectively reviewed from 01-05-2011 to 01-05-2016 with patients who were diagnosed as histologically proven Ewing's sarcoma. Number of patients, gender and baseline CT/MRI findings for staging were reviewed.

Results: A total of 568 patients with diagnosed Ewing's Sarcoma were analyzed out of which 15 patients had extra osseous type of Ewing's Sarcoma. Out of which only 8 patients had baseline imaging available including tumor arising from occipital region, orbit, anterior mediastinum, anterior abdominal wall, mesentery, kidney, prostate gland and presacral region.

Conclusion: This is case series review of extremely rare extraosseous ewings sarcoma. This tumor can be considered as a possible differential diagnosis.

119 P

SOFT TISSUE SARCOMA OF UPPER EXTREMITY: A DILEMMA BETWEEN SALVAGE VS AMPUTATION

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Purpose/Objective: Sarcomas are the tumours of mesenchymal origin which are considered to be more aggressive in nature with respect to their local behaviour as well as systemic spread. Majority of these tumours arise in upper and lower extremities and can grow to enormous sizes and have a blood borne spread to brain, lungs, liver and bones. In our population patients from far off areas present often very late with extensively large primary tumours and some times after multiple attempts of local excision and complications like bleeding and ulceration. In such advanced cases of soft tissue sarcomas in extremities the resecting and reconstructing surgeons are faced with a serious dilemma to salvage the limb or get local control by amputation. Amputation of an extremity has its immense

Material/Methods: In jinnah burn and reconstructive surgery department 10 cases of soft tissue sarcomas of upper limb were operated since january 2015

to august 2016. In all cases pre-operative work up was done with imaging modalities mri, histological diagnosis by wedge biopsy. Systemic work up was done in all cases with ct chest, ultrasound abdomen and haematological investigations. All cases were assessed pre and post operatively by radio-oncologist and medical oncologist. In all cases limb salvage was planned and a frozen section was arranged. Immediate reconstruction was carried out in 8 cases while delayed reconstruction was planned in 2 cases.

Results: Out of 10 cases 6 cases of spindle cell sarcoma 2 cases of synovial sarcoma 1 case of liposarcoma and 1 case of fibrosarcoma. In all cases the upper extremity was salvaged. No amputation was carried out. In all cases free margins were obtained initially by frozen section and later histology reconfirmed the tumour clearance. 1 recurrence has been observed so far in a case of spindle cell sarcoma. No later metastatic spread has been observed so far. Major vessel resection and repair with vein grafts was carried out in 3 cases. While in only one case major nerve resection and nerve grafte was carried out.

Conclusion: In upper extremity limb salvage is still a better option, in advanced soft tissue sarcomas, compared to amputation. But needs multidisciplinary management plan.

120 P

MALIGNANT EPITHELIOID VASCULAR LESIONS, EXPERIENCE AT SKMCH**MUHAMMAD ZAIN MEHDI, SAJID MUSHTAQ, NOREEN AKHTER, USMAN HASSAN AND ASIF LOYA****PATHOLOGY DEPARTMENT, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH HOSPITAL, LAHORE, PAKISTAN**

Purpose/Objective: Epithelioid angiosarcoma and epithelioid hemangioendothelioma are rare vascular tumors. Epithelioid angiosarcoma arises predominantly in males in seventh decade of life in deep soft tissues including muscles. It is an aggressive tumor with poor outcome. Epithelioid hemangioendothelioma is an intermediate grade vascular neoplasm with slight female predilection and presents in extremities, head and neck region and torso. The study aims to demonstrate clinical and histological features of these rare tumors.

Material/methods: Cases diagnosed as epithelioid angiosarcoma and epithelioid hemangioendothelioma were retrieved from the archives of Shaukat Khanum Memorial Cancer Hospital and Research Centre. These were re-examined by two pathologists independently. Immunohistochemical stains were employed in some cases to reconfirm the diagnosis.

Results: here were eight cases of epithelioid angiosarcoma, with a mean age of 49 ± 17.8 years. Male to female ratio was 1:3. The most common sites were abdomen, chest and head and neck region. CD34 was positive in 57% of the cases, while CD31 showed positivity in 43% cases. The tumor was negative for CK, EMA, S100 and HMB-45. There were six cases of epithelioid hemangioendothelioma with a mean age of 34 ± 10.01 years. Male to female ratio was 2:1 and most tumors presented in extremities, chest and abdomen. All the cases of epithelioid hemangioendothelioma were positive for CD34 and CD31.

Conclusion: Both these vascular tumors have an epithelioid appearance which raises a differential of carcinoma, large cell lymphoma and melanoma. Negativity for epithelial markers (CK AE1/AE3 and EMA), lymphoid marker (LCA) and melanoma markers (HMB-45 and S100) can help rule them out. These tumors should be suspected in correct clinical setting and in presence of positive staining for CD31, CD34 and ERG.

121 P**EVEROLIMUS FOR PELVIC LYMPHANGIOLEIOMYOMATOSIS: A MAGIC BULLET FOR AN UNTREATABLE CONDITION?****SHARJIL WAHID, MBBS, FCPSA,F, PING CHIA CHIANGG, HAO LUN LUO, MDA,B, SHUN-CHEN HUANG, MDC, EING-MEI TSAI, MD, PHDD,E , PO HUI CHIANG, MD, PHDA****DEPARTMENT OF UROLOGY, KAOHSIUNG CHANG GUNG MEMORIAL HOSPITAL, KAOHSIUNG, TAIWAN**

Lymphangiomyomatosis (LAM) is a rare, currently untreatable disease of young women in which tumors form in the lungs and extrapulmonary sites. We treated 3 cases of large-volume, symptomatic, extrapulmonary pelvic LAM tumors with everolimus, and evaluated them with serial CT scans. After 6-18 months of treatment, all 3 patients showed dramatic reduction in their tumors and symptom control. One patient demonstrated complete remission, while the other 2 had 30-50% regression of the pelvic LAM and renal angiomyolipoma (AML). All three have not demonstrated recurrence or progression after 0.5-4 years. Everolimus may be the proverbial magic bullet for this malady.

122 P**AGGRESSIVE GIANT CELL TUMOR OF THE ANTERIOR RIB WITH THORACIC EXTENTION: A CASE REPORT****SHEEZA IMTIAZ, MUHAMMAD SAAD AHMED****DR. ZIAUDDIN UNIVERSITY HOSPITAL, KARACHI, PAKISTAN**

A giant cell tumor is a benign bone tumor, accounting for 4% to 9.5% of all bone tumors and 20% of all benign bone tumors. Ribs are rare site for giant cell tumor and only few cases have been reported in the literature with most of them involving the posterior aspect. We report a case of a large giant cell tumor in a 12 year old boy involving left 4th rib with intra and extrathoracic involvement.

Patient presented with a four-month history of a progressively growing mass in left anterior chest wall not associated with pain. On local examination, there was a huge swelling on anterior aspect of left upper chest wall. The patient was vitally stable, however, had decreased air entry in the left upper chest. CXR showed destruction, erosion and expansion of the left 4th rib with a large soft tissue component with intra and extra-thoracic extension. CT showed a large destructive bubbly, expansile mass lesion arising from the angle and anterior part of the left 4th rib causing significant destruction and erosion. The lesion was infiltrating the left antero-lateral chest wall with extra and intra-thoracic component. Initially, a differential diagnosis of Ewing's Sarcoma, Giant cell tumor with malignant transformation and osteosarcoma was made. Biopsy of the lesion was done and histopathology confirmed diagnosis of Giant cell tumor.

Due to its rarity, GCT arising from the chest wall is difficult to diagnose, especially when the tumor is located in the anterior arc of the ribs. However differential should be kept in mind while reporting rib lesions.

123 P

ARTERIOVENOUS HEMANGIOMA OF FOOT**RAFAY GUL, JAIDEEP DARIRA, KAMRAN HAMEED, SUMAYYA FATIMA, KASHIF SHAZLEE****DR ZIAUDDIN UNIVERSITY HOSPITAL, KARACHI. PAKISTAN**

Purpose/Objective: Arteriovenous malformation is a rare condition and spontaneous regression is also rare. Arteriovenous malformations may be present throughout a person's life with the origin time spanning from congenital abnormalities to manifestations thereafter from various stimuli such as trauma. The most common manifestations occur in the brain, lungs and lower extremity. One of the distinctive signs indicating the presence of an AVM is an auditory bruit, which one can assess during physical examination.

Case report: 30-year-old female patient presented with complain of progressive painful swelling on planter aspect of right heel. He denied recent or remote trauma with unremarkable medical history. On physical exam, a tender cutaneous ulcerated wound was noted on plantar aspect of the foot. Further magnetic resonance (MR) imaging was subsequently performed for characterization of lesion. Concomitant ultrasound and x-ray was also done.

Conclusion: This case was reported as arterio-venous hemangioma / soft tissue vascular malformation. Histopathology report also confirmed the diagnosis (arterio-venous hemangioma). An extensive literature search yielded only few reports that have reported as arterio-venous hemangioma in foot.

124 P

RADIOLOGICAL FINDINGS OF SUDECK'S DYSTROPHY**MUNAZA IRSHAD, DR SEHRISH MEHMOOD, DR RAHILA USMAN, DR KASHIF SHAZLEE
SAAD JILANI****DR. ZIAUDDIN UNIVERSITY HOSPITAL , PAKISTAN**

Purpose/Objective: Sudecks dystrophy was first described in 1864 by Mitchell et al. The synonyms include reflex sympathetic dystrophy syndrome, complex regional pain syndrome 1, algodystrophy, algoneurodystrophy, causalgia, post traumatic osteoporosis. It is characterized by four cardinal symptoms: pain out of proportion to initial injury, swelling, stiffness and discoloration.

Case report: Here I describe a case of a 70 years old male patient, who came to our department with history of trauma 8 months back, at present complaining of right wrist swelling and limited hand movements for 2 months. On physical examination there was swelling at wrist, shiny red skin and tenderness on deep palpation.

On plain radiograph it showed marked periarticular osteopenia with preserved joint spaces and posterior distal radio ulnar dislocation with soft tissue swelling. Ultrasound examination showed thickened extensor tendons and ulnar bursitis showing rice bodies in it. MRI examination reveals extensive patchy marrow edema. Abnormal fluid signal intensity seen in the joint spaces. There is marked fluid distension of ulnar bursa and abnormal fluid signal also seen in the small radial bursa alongwith synovial thickening. A localized cystic bulge is noted in the region of clinically palpable swelling over medial aspects of wrist with tenosynovitis along the extensor tendons. Overall imaging features are suggestive of extensive radio-ulnar bursitis with extensor's teno-sinovitis in association with Sudeck's dystrophy. Although MRI plays an important role in diagnosis of sudecks dystrophy but basically it is a clinical diagnosis.

Conclusion: Sudeck's dystrophy is a chronic painful disorder that usually develops after limb trauma without obvious peripheral nerve damage. The diagnosis of Sudecks dystrophy should be made cautiously. One must look for an underlying cause before it gets to the chronic phase. Although its outcomes are very difficult to predict, an early diagnosis and treatment increase the likelihood of successful outcomes.

125 P

SYMPTOMATIC CERVICAL PERINEURAL (TARLOV) CYST: A CASE REPORT**S TOUQEER A SULEHRIA, KHAIR MUHAMMAD, M. DANISH SARFARAZ, IMRAN KHALID NIAZI, AMJAD IQBAL****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

Purpose/Objective: Perineural (Tarlov) cysts are benign, usually asymptomatic, cerebrospinal fluid filled cysts of the spine, most often found in the sacral region.

Case report: We report a Tarlov cyst, located in the cervical spine, in a 33-year-old man who presented with a 4 week history of radicular symptoms of the right T1 root. The right perineural cyst was identified at the C7-T1 level following magnetic resonance imaging of the cervical spine. A conservative approach was chosen, with the use of a soft cervical collar for two weeks, a 15-day-course of oral non-steroidal anti-inflammatory medication and instructions concerning limitation of his activities.

Conclusion: This is the report of a symptomatic cervical Tarlov cyst which is a rare benign entity in cervical region, treated conservatively without the use of oral or injected steroids. The perineural cyst should be included in the differential diagnosis of patients presenting with radicular symptoms. The other differential that should be considered is neurofibroma if it shows enhancement on post contrast sequences.

126 P

ANTICANCER ACTIVITY OF 1-(3-(ACETYLTIO) PROPYL)-4-(DIMETHYLAMINO) PYRIDINE-1-IUM (DMAP-2) AGAINST GLIOBLASTOMA CELLS**MEHWISH SUBHAN, SYED SAAD HUSSAIN, AYAZ ANWAR, M. RAZA SHAH, SHABANA USMAN SIMJEE****H.E.J. RESEARCH INSTITUTE OF CHEMISTRY, INTERNATIONAL CENTER FOR CHEMICAL AND BIOLOGICAL SCIENCES, DR. PANJWANI CENTRE FOR MOLECULAR MEDICINE AND DRUG RESEARCH, INTERNATIONAL CENTER FOR CHEMICAL AND BIOLOGICAL SCIENCES, UNIVERSITY OF KARACHI. PAKISTAN**

Purpose/Objective: Glioblastoma Multiforme (GBM) is an aggressive and malignant brain tumor that originates in cerebral hemisphere but can also develops in other parts of brain, brain stem or spinal cord. It is the most common and lethal primary brain tumor in adults and the median survival rates range from 12–15 months. The development of new therapeutic strategies for the management of gliomas is therefore crucial. The present study is designed to explore the growth inhibitory activity of 1-(3-(acetylthio) propyl)-4-(dimethylamino) pyridine-1-ium (DMAP-2) in the treatment of GBM on glioblastoma cells.

Material/Methods: U-87, a human epithelial malignant glioblastoma cell line was used to determine anticancer activity of DMAP-2 compound using MTT assay.

Results: After 24 hour treatment with DMAP-2 it was observed that viability of glioblastoma cells were decreased to 79%, 81%, 84%, and 95% at the dose of 105 μ M, 211 μ M, 317 μ M and 423 μ M respectively.

Conclusion: Our preliminary study showed that administration of DMAP-2 may be therapeutically exploited for the management of GBM.

127 P

EGFR, COX 2 AND CYCLIN D1 IMMUNOHISTOCHEMICAL ANALYSIS IN GLIOBLASTOMA: A PRELIMINARY RESULT

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AGA KHAN UNIVERSITY HOSPITAL, KARACHI PAKISTAN

Purpose/Objective: Many studies have been conducted related to EGFR, COX 2 and Cyclin D1 in Glioblastoma (GBM), both, in correlation with each other and as an individual biomarker. Despite of many studies, new therapeutic methods are developing, GBM still has poor prognosis of less than year after diagnosis. To understand their correlation with each other may help develop new therapeutic methods to treat GBM. The aim of this study was to determine the overexpression of EGFR, COX 2 and Cyclin D1 in GBM patients at the tertiary care Hospital Karachi.

Material/Methods: This preliminary study is based on samples retrospectively collected from 25 patients with GBM who were diagnosed and treated at The Aga Khan University Hospital during the period of January 2013 to December 2015. Prior to enrolment, the patients were informed about the purpose of the study. Clinicopathological information of each case was obtained from the patient medical record. Immunohistochemistry for EGFR, Cyclin D1 and Cox2 overexpression was carried out on 25 cases using monoclonal antibodies against EGFR, Cyclin D1 and Cox2 protein respectively.

Results: Patient ages ranged from 10 to 81 years with the median of 51 years (mean = 49 years; \pm SD=13.0), 19 out of 25 patients were >40 years of age and 06 patients were <40 years of age. Out of 25 patients 12 patients (48%) were males and 13(52%) were females, with a male-female ratio of 1:1.1.

Overexpression of Cyclin D1 was observed in 16 patients (64%) using a threshold of 10% stained tumor nuclei. Overexpression of EGFR was observed in 15 patients (60%) and 10 patients (40%) were negative. Overexpression of Cox 2 was observed in only 08 patients (32%) and 17 patients (68%) were negative.

The overexpression of any studied marker was not significantly correlated with patient demographic and clinicopathological Findings.

Conclusion: The preliminary result of present study shows the increased expression of Cyclin D1 and EGFR and slightly decreased expression of Cox2 in Pakistani GBM patients compare to published literature. However, as these are the preliminary results and prevalence of studied markers may change at the conclusion of the study.

128 P

AN EXCEPTIONALLY RARE CASE REPORT OF IATROGENIC INTRA-SPINAL SUBDURAL HEMATOMA: MR IMAGING FEATURES**UNEZA MASOOD*, ASGHAR KHAN, HAROON SHAHID, HAFSA BABAR, TOUQEER A. SULEHRIYA, DANISH SARFARAZ, IMRAN KHALID NIAZI, AMJAD IQBAL****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTER, LAHORE, PAKISTAN.**

Purpose/Objective: To present the imaging findings observed in iatrogenic intraspinal subarachnoid hematoma following lumbar puncture.

Spinal subdural hematoma is very rare but potentially life debilitating condition. Spinal subdural hematoma often developed acutely and may require immediate evacuation to prevent potential harm to the spinal cord. Predisposing factors includes trauma, lumbar puncture, bleeding diathesis, post spinal surgery and vascular malformations.

Case report: We present a case report of 4-year-old girl, on treatment for pre B Acute lymphoblastic leukemia. Patient underwent routine intra-thecal chemotherapy via lumbar puncture. After two days, she presented to emergency with fever, severe pain at Lumbar puncture site and progressive paraplegia.

MRI whole spine was performed with IV gadolinium contrast demonstrated subdural and sub-arachnoid spinal hematoma in lower thoracic and lumbar spinal canal along with abnormal high cord signal extending up to the T6 vertebral level, likely representing cord edema.

Conclusion: Post lumbar puncture subdural/sub-arachnoid hematoma is rare complication and MR Imaging findings are highly sensitive for accurate diagnoses of this pathology.

129 P

PAPILLARY CRANIOPHARYNGIOMA: A CLINICOPATHOLOGIC STUDY OF A RARE ENTITY FROM A MAJOR TERTIARY CARE CENTER IN PAKISTAN**MUHAMMAD USMAN TARIQ****DEPARTMENT OF PATHOLOGY AND LABORATORY MEDICINE
AGA KHAN UNIVERSITY HOSPITAL, KARACHI, PAKISTAN.**

Purpose/Objective: Papillary Craniopharyngioma (PCP) is an uncommon variant of Craniopharyngiomas (CP) which are benign epithelial neoplasms of sellar and suprasellar region. Histologically, PCPs are typically composed of well differentiated stratified squamous epithelium but focal variations are not uncommon. Distinction from the other lesions of the region is difficult due to overlapping radiological and clinical features, but is important for adequate treatment.

Our aim was to study the clinical and histological features of PCP with emphasis on features which are helpful in its distinction from other lesions which are similar in appearance.

Material/Methods: We reviewed 13 cases of PCP diagnosed in our institution between January 2010 and December 2015.

Results: Mean age at presentation was 30.76 years. 2 of the patients belonged to pediatric age group. Male to female ratio was 2.25:1. Suprasellar location (either alone or in combination with sellar region) was the most common tumor site. Microscopically, all of the cases showed stratified squamous epithelium with frequent pseudopapillae formation. Focal adamantinomatous epithelium and columnar epithelium with variable cilia and goblet cells were seen in 4 (30.7%) cases. Brain invasion was observed in 3 (23%) cases. Four out of 7 patients died of disease, 2 developed recurrence and 5 experienced severe post-operative morbidity.

Conclusion: Majority of PCPs exhibited typical features with minor variations. Knowledge of the variations in histologic features helps in reaching the correct diagnosis. These tumors can behave aggressively with high recurrence rate and decreased overall survival.

130 P

LEPTOMENINGEAL CARCINOMATOSIS WITH OLIGODENDROGLIOMA**HIRA KHALID ZUBERI****KARACHI MEDICAL AND DENTAL COLLEGE. KARACHI, PAKISTAN.**

Purpose/Objective: Leptomeningeal carcinomatosis (LC) is a rare complication of cancer in which the disease spreads to the meninges surrounding the brain and spinal cord. LC occurs in approximately 5% of the people with cancer and the infrequency with which it is encountered makes it a formidable diagnostic challenge.

Our objective is to discuss the clinical and radiological findings of two middle aged female patients originally diagnosed with cerebral oligodendroglioma in the fronto-parietal region who later developed recurrence in the left cerebellar and right frontal cerebral region respectively along with multilevel leptomeningeal metastases.

Case report: Case 1: A 33 year old patient presented with complaints of seizures and left sided body weakness. MRI Brain revealed a space occupying lesion in the right fronto-parietal region which was excised and diagnosed as WHO grade III Anaplastic Oligodendroglioma on biopsy. Definitive diagnosis was obtained through FISH test on which deletion of 19q was revealed. She underwent radiotherapy of 60 Gray in 30 fractions and remained stable. Follow up scans one year later showed evidence of recurrent disease in the cerebellum and a high grade glial cell tumor was detected. She underwent Cyberknife surgery next month but developed left sided weakness and cerebellar symptoms with ataxia. MRI Brain showed interval reduction but MRI spine performed at the same time showed multiple enhancing nodules along the dural lining in the thoracic spine which were in favor of leptomeningeal disease. She received radiotherapy to the cervical and thoracic spine of 8 Gray in a single fraction and is currently on symptomatic treatment only.

Case 2: A 40 year old patient presented with complaints of gradually increasing headaches and episodes of tonic clonic seizures. CT Brain showed a space occupying lesion in the right fronto-parietal lobe. She was diagnosed with Oligodendroglioma grade II on histopathological findings. She received radiotherapy of 54 Gray in 27 fractions and returned 3 years later with a recurrent tumor in the right frontal region which was debulked and found to be Oligodendroglioma grade III on Immunohistochemistry. She underwent 6 cycles of PCV chemotherapy and remained stable for two years. She returned with complaints of headaches, disorientation, and left sided hemiplegia. MRI Brain showed hydrocephalus with increasing edema in both frontal regions. MRI Spine revealed extensive multilevel leptomeningeal disease from T2-T5 causing cord compression and edema. She was provided radiotherapy of 20 Gray in 5 fractions but died shortly.

Conclusion: These cases illustrate the potential presentations of the uncommon condition LC and the different courses the disease can take in patients with relatively similar presenting complaints. Due to the rarity of this complication, there is a lack of guideline for appropriate therapy which makes the recognition of this condition and its various presentations critical.

131 P

FURAN-BASED PEPTIDOMIMETICS: A POTENTIAL THERAPEUTIC APPROACH FOR GLIOBLASTOMA MULTIFORME

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Purpose/Objective: Glioblastoma multiforme (GBM) is a grade IV malignant glioma. It is most common, aggressive, neurologically destructive, and deadliest of human cancers. The current standard of care for GBM is surgery, chemotherapy and radiotherapy. More recent treatments are biological therapies, used alone or in combination with chemotherapy or radiotherapy. The GBM accounts for resistance to therapeutic intervention. To date, molecular targeted therapies are currently under progress for glioblastomas. The present study is designed to analyze the therapeutic potentials of furan-based peptidomimetics in the treatment of glioblastoma cells by evaluating its effect on the expression pattern of genes involved in the signal transduction.

Material/Methods: Cell culture:

Human Glioblastoma (U87) cell line was used in this study. The cells were cultured using RPMI media supplemented with FBS 10%, penicilline-streptomycin (1%), L-glutamine (1%), and sodium pyruvate (1%). The cultures were kept in an incubator maintained at 37°C with 5% CO₂.

Compounds as anticancer agents:

Furan-based peptidomimetics SN1c [SN-1cN-((S)-1-((S)-1-((S)-1-amino-1-oxopropan-2-ylamino)-3-(naphthalen-2-yl)-1-oxopropan-2-ylamino)-3-(4-hydroxyphenyl)-1-oxopropan-2-yl)furan-2-carboxamide] and SN1e [N-((S)-1-((S)-1-((S)-1-amino-1-oxopropan-2-ylamino)-1-oxo-3-phenylpropan-2-ylamino)-3-(naphthalen-2-yl)-1-oxopropan-2-yl)furan-2-carboxamide] were used.

MTT [(4, 5-dimethyl thiazol-2-yl)-2, 5-diphenyl tetrazolium bromide] Assay:

The effect of SN1c and SN1e on glioblastoma cell growth was evaluated through MTT assay. Briefly, the cells forming monolayer was trypsinized and resuspended in media. The cells (9 × 10³ cells/well) were plated in 96-wells plate and incubated at 37°C containing 5% CO₂ for 24 hrs. Following incubation, media was aspirated and 200 μL of different concentrations of test compounds in media were added. The plates were re-incubated for 24 hrs and after incubation, solution in the wells was aspirated and 200 μL of 0.5 mg/ml MTT dye was added and further incubated for 3 hrs at 37°C in 5% CO₂. After incubation, supernatant was removed and 100 μL of DMSO was added to each well to solubilize formazan. The absorbance was recorded on ELISA reader at 560 nm. All assays were performed in triplicates and the percentage growth inhibition was calculated using the formula:

$$\% \text{ Cell Inhibition} = 100 - \left\{ \frac{(At - Ab)}{(Ac - Ab)} \right\} \times 100$$

Where,

At, Ab and Ac are the absorbance value of test compound, blank and control respectively.

Results: Following 24 hours incubation, both SN1c and SN1e significantly inhibited the growth of U87 cells in dose dependent manner. The data was analyzed using SPSS-19 software. Data are expressed as mean ± standard error of the mean (SEM) in triplicate and compared by one-way analysis of variance (ANOVA) followed by Bonferoni post hoc test. P < 0.05 was considered to be statistically significant. Statistically, SN1c decreased the viability of U87 cells by 19.96%, 43.54%, 52.96% and 67.24% at 100 μM, 125 μM, 150 μM and 200 μM with (P < 0.05) respectively. However, SN1e showed reduction in viability by 39.48%, 53.9%, 67.72% and 87.82% at 80 μM, 90 μM, 100 μM and 200 μM with (P < 0.05) respectively.

Conclusion: The synthetic furan-based peptidomimetics have exhibited potent cytotoxic activity against human glioblastoma cells. Our next step is to evaluate the mechanism of action of these two compounds as they seem to be a candidate for the treatment of deadly disease in future.

132 P

SPECT-CT OF FIBROUS DYSPLASIA: A PICTORIAL REVIEW

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Purpose/Objective: To review the scitnigraphic features of fibrous dysplasia (FD) as seen on Tc99m MDP SPECT-CT.

Material/Methods: Retrospective review of four cases of fibrous dysplasia identified using the hospital information system from Jan 2014 till June 2016.

Results: Two patients had monostotic fibrous dysplasia involving the right frontotemporal bone and the left tibia. One patient had fibrous dysplasia involving the left iliac bone and left femoral neck. One patient presented with polyostotic fibrous dysplasia involving right half of skull, multiple ribs, right hemi pelvis and multiple long bones of the upper and lower limbs. This patient had classical Shepherd's crook deformity in the right femur.

Conclusion: Whole body bone scan with SPECT-CT is useful in characterization of fibrous dysplasias.

133 P

SCAR ENDOMETRIOSIS MIMICKING CARCINOMA- MRI FINDINGS: A CASE REPORT:**HASEEB REHMAN, JAIDEEP DARIRA, KASHIF SHAZLEE, SHEEZA IMTIAZ, RAHILA USMAN, MUHAMMAD SAAD AHMED.****DR. ZIAUDDIN UNIVERSITY & HOSPITAL, KARACHI, PAKISTAN.**

Purpose/Objective: Endometriosis is occurrence of ectopic endometrial tissue outside uterus. It has an incidence of 0.03-0.4%. We presented a case of 35 year old women with history of lower abdominal pain associated with dysuria for last 1year. On further inquiring the patient interrelated the severity of pain with her menstruation prior to hysterectomy. In this study scar endometrioma involved the urinary bladder mimicking neoplastic lesion/ desmoid tumor with its variable imaging findings and diagnosis on histopathology. Proper clinical history and the association of pain with menstruation really assist in reaching the diagnosis

Results: Endometriosis is defined as the ectopic growth of endometrial tissues outside the uterus. In premenopausal women 15%–44% have been reported to develop the disease after surgical procedures (1). Common site of involvements are abdominal wall, ovaries, fallopian tubes, uterine ligaments, bladder and rectosigmoid. This rare entity can be immensely distressing for patients physical and mental well-being. In this study abdominal wall endometrioma involved the urinary bladder mimicking neoplastic lesion/ desmoid tumor with its variable imaging findings and diagnosis on histopathology.

Conclusion: This case report illustrated a rare case of scar endometriosis. Although the diagnosis can only be accomplished after histopathology but the proper clinical history and the association of pain with menstruation really assist in reaching the diagnosis.

134 P

COMPARATIVE STUDY OF DIFFERENT QUALITY CONTROLS PARAMETERS OF GE-INFINIA AND SIMEN GAMMA CAMERA

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Purpose/Objective: The main object of quality control of gamma camera is to detect the changes the performance of gamma camera system that may interfere the clinical studies. The object of the gamma camera is to obtain reliable image using best parameters on daily, monthly and annually basis. Quality control tests performed on gamma camera being used at Gujranwala Institute of Nuclear Uranium and Medicine Hospital.

Material/Methods: Keep in mind there are large numbers of factor that may affect the performance of Quality control of Gamma camera that contribute to the reliable image quality. Radio nuclide source 99mTc, Jaczk phantom, sheet source are used for this purpose. Methods includes are non-circular orbit test, center of rotation, multi head registration 180o, 90o, integral uniformity, differential uniformity, center field of view, useful field of view, energy peak resolution count rates saturation and source to camera distance etc. These minimum quality control tests are useful to detect problems for both gamma cameras.

Results: When 99mTc radionuclide source 10mCi and low energy high resolution collimators are used the then count rates less than 45 kc/s. Value of uniformity center field of view is 2.94% and 3.74 % these are within the acceptance limits. Energy peak resolution obtained 139.6 KeV. Center of rotation perform MHR 180o for cardiac study and MHR 76o for brain study uniform image and flood equally distributed between 75 cm to 100 cm reliable image obtain between 100cm to 150cm. This camera makes easy to perform cardiology service right in hospitals. It is a patient friendly

Conclusion: Ge-Infinia gamma camera gives better performance as compared to simen gamma camera because the study of quality control is easy and time saving, it allows attenuation correction for enhanced sensitivity, reduce motion artifacts and get reliable Image.

135 P

SURVIVAL IMPACT OF SKELETAL METASTASIS IN PATIENTS WITH GERM CELL TUMOURS ON BONE SCINTIGRAPHY**MAIMOONA SIDDIQUE¹, AAMNA HASSAN¹ AND SAADIYA JAVED KHAN²****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE.
PAKISTAN**

Purpose/Objective: Our aim was to determine the frequency of skeletal metastasis in germ cell tumours (GCT) at baseline and at relapse on conventional Technetium-99m Methylene Diphosphate (Tc-99m MDP) whole body bone scan (bone scan) and to evaluate the effect of bone metastases on survival.

Material/Methods: Electronic medical records of histologically proven GCT over 64 months were retrospectively analyzed. Basic demographic and histologic information was correlated with presence of osseous and visceral metastases. 5-year disease free survival (DFS) and overall survival (OS) was calculated in presence, absence of bone metastases at baseline and at relapse.

Results: A total of 130 gonadal and extragonadal GCT patients underwent Tc-99m MDP bone scans, four with insufficient data were excluded. 47% females and 53% males. Age range: one month - 72 years. 105 (83%) were under 18 years of age. Osseous metastasis was detected in 12 (9.5%). Two (17%) had solitary, and 10 (83%) multifocal skeletal metastases. Clinically, 83% had localized bone pain. Osseous metastases were more frequently associated with mixed GCT and yolk sac tumour. 50% of mediastinal GCT developed bone metastases. 42% died within 4-18 months. There was a statistically significant impact of visceral metastases on DFS and OS. OS at 5 years in patients without bone metastases, with bone metastases at baseline and bone metastases at relapse was 77%, 38% and 75% respectively. 5-year DFS for same cohort groups was 63%, 38% and 20% respectively.

Conclusion: Osseous involvement was found in 9.5% of GCT patients undergoing diagnostic Tc-99m MDP bone scan. Baseline skeletal evaluation for metastases should be done, particularly in case of bone pains or known systemic metastases. Although skeletal relapses are rare, they have a grim outcome.

136 P

MEAN BONE MINERAL DENSITY IN PATIENTS OF DIFFERENTIATED THYROID CARCINOMA ON SUPPRESSIVE DOSAGE OF THYROXINE**MAIRAH RAZI, SAIMA RIAZ, M. KHALID NAWAZ, AAMNA HASSAN, HUMAYUN BASHIR****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE. LAHORE. PAKISTAN**

Purpose/Objective: To determine the mean bone mineral density in patients of differentiated thyroid carcinoma on suppressive dosage of thyroxine.

Material/Methods: A prospective cross-sectional study conducted at Shaukat Khanum Memorial Cancer Hospital and Research Centre, Lahore during the period of April 2015 to January 2016. 100 patients with DTC on thyroxine suppressive therapy were enrolled in the study. Bone mineral density measured at the lumbar spine (L1 to L4), left femoral neck and left hip in all the patients by dual energy X-ray absorptiometry in all patients.

Results: Patients were 42.2 ± 12.8 years old including 69 females and 31 males (Age range = 21-75 years). Mean BMD results at the lumbar spine, left total hip and left femoral neck were 1.11 ± 0.21 , 0.99 ± 0.15 and 0.96 ± 0.15 respectively. No statistically significant differences were found in mean BMD results at any site on the basis of duration of thyroxine suppression therapy. However, significant differences were observed in mean BMD results on the basis of age and gender stratification. Mean duration of thyroxine suppression therapy in years was found to be 4.6 ± 3.04 . Mean thyroxine dose to achieve effective TSH suppression was 199 ± 44

Conclusion: Thyroxin therapy in doses sufficient to suppress TSH to less than 0.1mU/L in DTC patients did not result in bone mineral loss irrespective of the duration of suppression.

137 P

DOSIMETRIC UNCERTAINTY OF TC-99M ON GAMMA CAMERA SCANNING: A SINGLE INSTITUTE REVIEW OF 200 CASES**UMM-E-FARWA KHALID, DR. ISA KHAN****UNIVERSITY OF GUJRAT, GUJRAT, PAKISTAN**

Purpose/Objective: In Nuclear medicine radioactive isotopes are used to provide information about the functioning of a person's specific organs or to treat disease [1]. A radiopharmaceutical is typically made by two components, one of the radionuclide and other is chemical compound to which it is bound. Some isotopes that are used in medicine field are Technetium-99m used for numerous specialized medical studies [2]. The main objective of this paper is to find uncertainty that some time inject to patients due to time delay which effect the image quality and scanning time.

Material/Methods: First of all note the time of injection preparation t_1 and calibrate activity of Tc-99m that is filled in injection A_0 and injected time t_0 . After injecting the patients find the remaining activity A_2 , then find the difference of injection preparation time and time when inject patient $t = t_1 - t_0$ then by using this formula $A_1 = A_0 \exp(-\lambda t)$ find the time delay activity and by Subtracting the remaining activity from time delay activity $A = A_1 - A_2$, will get the uncertainty and final value that is injected to patient. To find, how many uncertainty exist in activity, compare this dose activity that is injected to patient with the standard value of dose that recommend by nuclear medicine centers.

Results: Study was performed on 200 adult patients of each type of scanning, it was found that in 2% thyroid patients, 10% renal patients uncertainty was found but uncertainty in case of bone and cardiac scintigraphy was greater 76% and 90% patients respectively. It was concluded that the mostly uncertainty exist due to the time delay. To minimize this uncertainty it should be necessary to prepare the radioactive injection when patients arrive in injection room and use such type of syringe that not absorb radioactive dose. Average of each 50 injection syringes remaining value was 1.045mCi, 0.31 mCi, 0.282 mCi, 1.686 mCi in case of bone, renal, thyroid and cardiac scintigraphy, respectively.

Conclusion: It was concluded that the mostly uncertainty exist due to the time delay. To minimize this uncertainty it should be necessary to prepare the radioactive injection when patients arrive in injection room and use such type of syringe that not absorb radioactive dose.

138 P

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

Purpose/Objective: 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.

A number of translational inhibitors are known that could potentially effect translation of mitochondrial protein synthesis. Among these Puromycin, Homoharringtonine and Cyclohexamide were 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.

Material/Methods: To study the effect of translational inhibitors, 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.

139 P

A NOVEL DELETERIOUS C.2656G>T MSH2 GERMLINE MUTATION IN A PAKISTANI FAMILY WITH A PHENOTYPIC OVERLAP OF HBOC AND LS**HUMAIRA NAEEMI¹, NOOR MUHAMMAD¹, ASIF LOYA², MUHAMMED A YUSUF³, JAN LUBIŃSKI⁴, ANNA JAKUBOWSKA⁴, UTE HAMANN⁵, MUHAMMAD U RASHID¹****1 BASIC SCIENCES RESEARCH, SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE (SKMCH & RC), LAHORE, PAKISTAN; 2 DEPARTMENT OF PATHOLOGY, SKMCH & RC, LAHORE, PAKISTAN; 3 DEPARTMENT OF INTERNAL MEDICINE, SKMCH & RC, LAHORE, PAKISTAN; 4 DEPARTMENT OF GENETICS AND PATHOLOGY, POMERANIAN MEDICAL UNIVERSITY, SZCZECIN, POLAND; 5 MOLECULAR GENETICS OF BREAST CANCER, GERMAN CANCER RESEARCH CENTER (DKFZ), HEIDELBERG, GERMANY**

Purpose/Objective: Hereditary breast and ovarian cancer syndrome (HBOC) and Lynch syndrome (LS) account for a significant proportion of inherited gynecologic malignancies, mainly caused by pathogenic germline mutations in the BRCA1 and BRCA2 genes or in mismatch repair (MMR) genes, such as MLH1 and MSH2. Women harboring deleterious mutations in these genes have increased life-time risks of developing cancers with a considerable phenotypic overlap between HBOC and LS. Appropriate identification of individuals carrying mutations in a particular gene is an important factor in optimizing cancer risk management.

Material/Methods: A 67-year-old Pakistani woman was diagnosed with triple negative breast carcinoma. The patient reported a personal history of endometrial cancer diagnosed at age 48, and a strong family history of malignancies within the spectrum of HBOC and LS. Clinical and histopathological data were collected from medical records and pathology reports. Due to the presence of multiple breast and ovarian cancers in this family, the preliminary diagnosis considered was HBOC. Hence, BRCA1, BRCA2, CHEK2, and RAD51C were comprehensively screened using denaturing high-performance liquid chromatography followed by DNA sequencing and found to be mutation negative. Since this pedigree also fulfilled the diagnostic criteria of suspected HNPCC, the patient was moreover screened for MLH1 and MSH2 genes.

Results: Pedigree analysis showed cancers of breast (n=6), endometrium (n=4), ovarian (n=3), colon (n=3), and intestine (n=2) and seven other malignancies in this family. A novel pathogenic heterozygous nonsense MSH2 mutation, c.2656G>T, was found in the index patient diagnosed with breast-endometrium cancer. The mutation was also found in the index patient's daughter and a niece, affected with endometrial and ovarian cancer, respectively. Breast and endometrial tumors from c.2656G>T mutation carriers showed loss of MSH2 and MSH6 protein expression. The mutation was absent in 100 healthy female controls.

Conclusion: Our finding suggests that MMR gene testing may be of beneficial to BRCA1/2 negative families presenting with overlapping features of HBOC and LS phenotype in Pakistan. It is clinically significant to identify individuals harboring mutations in genes linked with a particular syndrome so that they can benefit from targeted life-saving cancer surveillance and preventive strategies.

140 P**IN SILICO IDENTIFICATION OF PUTATIVE BIFUNCTIONAL PLK1 INHIBITORS BY INTEGRATIVE VIRTUAL SCREENING AND STRUCTURAL DYNAMICS APPROACH****NOUSHEEN BIBI, SHAGUFTA SHAFIQUE, SAJID RASHID****NATIONAL CENTER FOR BIOINFORMATICS, FACULTY OF BIOLOGICAL SCIENCES, QUAID-I-AZAM UNIVERSITY ISLAMABAD, PAKISTAN**

Polo like kinase (Plk1) is a master regulator of cell cycle and considered as next generation antimitotic target in human. As Plk1 predominantly expresses in the dividing cells with a much higher expression in cancerous cells, it serves as a discriminative target for cancer therapeutics. Here we implied a novel and promising integrative strategy to identify "bifunctional" Plk1 inhibitors that compete simultaneously with ATP and substrate for their binding sites. We integrated structure-based virtual screening (SBVS) and molecular dynamics simulations with emphasis on unique structural properties of Plk1. Through screening of 20,000 compounds, nearly ~2000 hits were enriched and subjected to SBVS against ATP and substrate binding sites of Plk1. Subsequently, on the basis of their binding abilities to Plk1 kinase and polo box domains, filtration of candidate hits resulted in the isolation of 26 hits. By exclusion of close analogues or isomers, 10 unique compounds were selected for detailed study. A representative compound was subjected to molecular dynamics simulation assay to have deep structural insights and to gauge critical structural crunch for inhibitor binding against kinase and polo box domains. Our integrative approach may complement to high throughput screening and identified bifunctional Plk1 inhibitors may contribute in selective targeting of Plk1 to elicit desired biological process.

141 P

HUMAN EPITHELIAL CARCINOMAS AND CONTRIBUTION OF MITOCHONDRIA IN THEIR TUMORIGENESIS

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Purpose/Objective: Mitochondria has mitochondrial chaperones, which has role in oncogenesis, neurodegenerative disorders, and apoptosis. Loss of their function accumulates unfolded proteins, disrupts mitochondrial respiration, generates reactive oxygen species and leads to the proliferation of tumour cells while over expression of this family of proteases triggers cell death.

In the current study, we have used colorectal cancer cell lines (HCT-116) and Prostate cancer cell lines (PC3) to analyse if mitochondrial proteases of the interacting pathway effects mitochondrial genome expression and its regulation in these cancers. Our aim was to study the functions of mitochondria in few carcinomas and study their genomic regulation.

Material/Methods: We have induced the expression of these proteases in cancer cell lines through heat mediated stress and drug induced ER stress and then monitored the transcription level of these proteases through Real Time PCR. Protein level of these proteases are observed through western blotting. Reactive oxygen levels were also observed after induction of these proteases.

Results: Moreover, the effect of these proteases on mitochondrial gene expression was studied and interesting results were obtained. Overexpression of these proteases correlates with increase in transcription of mitochondrial genome and therefore, we can regulate the mitochondrial genetic machinery by targeting these proteases.

Conclusion: Mitochondria has important roles in initiating tumour malignancies. On one side it's the central energy generating organelle and aid in important cellular processes, it's also involved in generation of Reactive Oxygen species and mediators of intrinsic apoptosis. Understanding the regulation of mitochondrial genome and role of mitochondrial proteases in regulating its expression thus plays an important role in studying the organelle mechanism in tumour cells.

142 P

POTENTIAL ANTI-CANCER AGENT AGAINST NEUROBLASTOMA: 8-HYDROXYQUINOLINE BASED MANNICH BASES**SYED SAAD HUSSAIN¹, DR. SHAHEEN FAIZI¹, SHABANA U. SIMJEE^{1,2}****H.E.J. RESEARCH INSTITUTE OF CHEMISTRY, INTERNATIONAL CENTER FOR CHEMICAL AND BIOLOGICAL SCIENCES, UNIVERSITY OF KARACHI. PAKISTAN**

Neuroblastoma has one of the highest fatality rate in children and it accounts for 15% of childhood cancer deaths. There is no known etiology for neuroblastoma apart from that it arises from neural crest cells and certain aberrations occur in genomic structure of the cell. Therapeutic approaches for neuroblastoma ranges from observation to intensive multimodal therapy. These approaches have improved event free survival, but relapse rates are alarmingly high. Due to drug resistance, therapeutic protocols are often ineffective in patients with aggressive neuroblastoma. The present study focus on evaluation of novel mannich bases for their anti-cancer activity against neuroblastoma cell line. Human SHSY5Y neuroblastoma cell line was used in this study. Cytotoxicity was evaluated by MTT assay and apoptosis was studied by calculating nuclear area factor (NAF). After preliminary screening assay of different hydroxyquinoline based mannich bases, two mannich bases were selected for further studies i.e., 3FB3FA8H and 3NBOABA8H. 3FB3FA8H showed concentration and time dependent killing having IC₅₀ 2.5 μ M at 48 hours. NAF was evaluated at respective IC₅₀ doses which showed reduction by 30% ($p < 0.05$) at 48 hours of treatment. 3NBOABA8H also showed concentration and time dependent killing having IC₅₀ 5 μ M at 48 hours. NAF at respective IC₅₀ doses demonstrated reduction by 29% ($p < 0.05$) at 48 hours. The data reflects that these compounds can be a possible apoptosis inducing agent and a future potential candidate for anti-cancer drug against neuroblastoma.

143 P

MOLECULAR ONCOLOGY: STRUCTURAL AND FUNCTIONAL IMPACT OF MUTATIONS IN RAS GENE FAMILY**TAZEEN MUSTANSAR****DOW UNIVERSITY OF HEALTH SCIENCES, KARACHI, PAKISTAN.**

Purpose/Objective: Structural and functional impacts of mutations on RAS genes encoded protein namely KRAS, HRAS and NRAS.

Material/Methods: Full length molecular models of wild type RAS proteins were constructed using iterative threading alignment. The models were refined for the structural parameters and thermodynamic parameters. Subsequently, cavity analysis and molecular docking was conducted between GTP/GDP and RAS proteins.

Results:

Superimposition of RAS proteins with its mutants at tertiary structure level did not show any considerable differences with RMSD deviation ranging from 0.06Å to 0.10Å. However, mutant residues superimposition showed noticeable differences in the spatial orientation. For example in KRAS, K5E, K5N, G10GG, G13D, Q22E, I36M, Q61H, Y71H, K117N, K147E, F156I and F156L showed considerable change in the orientation of residues. Similarly, wildtype GTP/GDP binding cavity holds volume and surface area as 680.64Å³ and 1062.48Å². Where volume of G10GG, Y71H and K117N are 1123.71Å³, 974.59Å³ and 954.37Å³ respectively. Similarly, surface area of the GTP/GDP binding region increased to substantial scale compared to wildtype. Subsequent molecular docking analyses verified this notion.

Conclusion: The present data report for the first time the molecular impact ensued by the structural perturbation due to mutations in RAS proteins.

144 P

DOES THE USE OF PROPHYLACTIC ANTIBIOTIC BEFORE THE INSERTION OF TOTALLY IMPLANTABLE VENOUS ACCESS DEVICES (TI-VAD) PREVENT CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTION (CLABSI) IN THE EARLY POSTOPERATIVE PERIOD**SANA AMIR AKBAR****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE.
PAKISTAN**

Purpose/Objective: TI-VADs play an important role in the care of cancer patients especially for the administration of chemotherapeutic drugs in children. As they are completely embedded under the skin they are related with less infection rate but they can still be associated with bloodstream infection sometimes requiring pre-mature removal. The role of giving prophylactic antibiotic before the insertion of these devices has not been studied. Therefore, this retrospective study aimed to analyze the efficacy of prophylactic antibiotic before the insertion of TI-VADs in terms of preventing CLABSI in early postoperative period.

Material/Methods: A total of 645 consecutive patients (409 male and 236 female) who were implanted with TI-VAD between January 2005 and June 2016 were included. The data was collected retrospectively and was divided into two groups on the basis of prophylactic antibiotic administration (Group A received the antibiotic and Group B did not received the antibiotic). Both the groups were compared in terms of positive central blood cultures in the absence of any other clinical source of infection during the early postoperative period of 30 days.

Results: The overall infection rate was 11.6 % with 12.3 % in Group B (not received prophylactic antibiotic) and 11.3 % in Group A (received prophylactic antibiotic). On comparison between the groups, the p-value was found to be insignificant

Conclusion: There is no added advantage of the use of prophylactic antibiotic before TI-VAD insertion in preventing early postoperative CLABSI.

145 P

INCENTIVES OF 5 FU INFUSIONS THROUGH PUMP AND DECREASE STAY IN HOSPITAL

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Purpose/Objective: In developing countries chemotherapy and their administration cost is the major issue which is addressed by introducing chemotherapy infusion pumps, started for the first time in oncology day care at Aga Khan university hospital Karachi Pakistan in the year 2012. Chemotherapy which was studied for this purpose was 5-Fluorouracil given through 46 or 96 hours infusion pumps implemented in following regimes:

FOLFOX: Folinic Acid+5-Fluorouracil+Oxaliplatin

FOLFIRI: Folinic Acid+ 5-Fluorouracil+Irinotecan

FOLFIRINOX: Folinic Acid +5-Fluorouracil+Irinotecan+Oxaliplatin

DCF: Docetaxel+Cisplatin+5-Fluorouracil

The above mentioned Chemotherapy regimens are mostly used in gastrointestinal cancers such as colorectal, gastric and pancreatic cancers.

Material/Methods: A comparative study is done on cost difference and patients satisfaction, by developing survey forms and 3 months data of patients was gathered who were admitted for three to four days in ward to receive chemotherapy and compared with those who were admitted in oncology day care for six to eight hours for same treatment.

Results: Results turned up as remarkable cost reduction, increased convenience, more compliance and hence overall great patient's satisfaction.

Conclusion: It is concluded that chemotherapy administration in oncology day care for gastrointestinal cancers after introduction of elastomeric portable infusion pumps for 46 or 96 hours of 5-Fu not only increased patient's satisfaction with less financial burden but also enabled patients to perform normal routine activities of life.

146 P

NUTRITIONAL CHALLENGES DURING CHEMOTHERAPY: A MULTIPLE CASE STUDY OF PEDIATRIC ONCOLOGY PATIENTS

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Purpose/Objective: Nutrition remains a major area of concern at the time of diagnosis, treatment and survivor-ship of childhood leukemia (Acute Lymphoblastic Leukemia-ALL). Nutritional problems may be present at diagnosis, or start after the first few doses of chemotherapy. However, lack of research in the area hinders timely identification, assessment and management of children who experience nutritional problems.

The objectives of this multiple case study research was to identify nutritional challenges faced by a child undergoing chemotherapy, to explore how parents dealt with these challenges, to learn what recommendations parents have received from their medical caregivers to deal with dietary side effects and to explore the benefits of given dietary recommendations in improving intake of a child.

Material/Methods: This study qualitatively explored such nutritional challenges from children with ALL and their parents and their coping strategies. Moreover, this study looked into the trends of nutrition status through diet recall and growth charts and hospital records stating nutritional problems from start of chemotherapy.

Results: The results of this study revealed that each of three cases faced nutritional challenges during the initial intensive phase of chemotherapy but gradually they started improving their nutritional status. These challenges were evident from their medical record analysis, growth charts, diet recalls and in depth interviews. All three cases received detailed counselling on nutritional challenges and parents shared their strategies for dealing with these challenges. However, ongoing counselling and dietary recommendations were missing in all three cases.

Conclusion: Adequate nutrition enables a child to cope better with detrimental effects of chemotherapy whereas poor nutrition can lead to increased risks of infections, decreased tolerance to chemotherapy, poor survival, and higher chances of relapse. The need for nutritional assessment of all pediatric oncology patients and dietary counselling sessions along with large scale research studies to guide practice are evident.

147 P

PHYSICAL ACTIVITY PROMOTION FOR CANCER SURVIVORS: A MIXED METHOD APPROACH.**SADIA NAFEES¹, MAGGIE HENDRY¹, JULIA HISCOCK¹, RHIANNON T. EDWARDS², CLARE WILKINSON¹, NEFYN WILLIAMS¹****BANGOR UNIVERSITY - 1. NORTH WALES CENTRE FOR PRIMARY CARE RESEARCH; 2. INSTITUTE OF MEDICAL & SOCIAL CARE RESEARCH**

Purpose/Objective: Though beneficial effects of physical activity in adult cancer survivors are well-established, they are not active enough to reap such benefits. Interventions to promote physical activity are needed. Hence, the aim of this project was to develop a physical activity behaviour change intervention for cancer survivors.

Material/Methods: Evidence synthesis about the effectiveness of physical activity education materials was undertaken with a systematic review; identification of the underpinning theory for such an intervention with a literature review; patient focus groups were utilised to refine the intervention, assess its acceptability as promotional reminders, and to explore their perceptions about physical activity, and experiences of such advice from their caring professionals; and an online self-complete survey was done of health professionals involved in cancer care to find out their current practice, knowledge and beliefs about physical activity promotion to cancer survivors.

Results: Education materials can help increase physical activity levels in adult cancer survivors leading to improved physical function. Adult cancer survivors desire a consistent, tailored and in person physical activity advice as part of their standard care. The survey confirmed the focus groups findings and highlighted variation and inconsistency in physical advice to cancer patients.

Conclusion: Physical inactivity in cancer patients needs to be addressed to improve their quality of life. Low maintenance, theory driven and tailored physical activity promotional interventions are one way. A feasibility pilot trial of a weekly text message based reinforcement intervention developed in this project suggested to be embedded into existing healthcare setting is proposed.

148 P

DEVELOPMENT AND PSYCHOMETRIC TESTING OF A SELF-EFFICACY TOOL IN URDU LANGUAGE

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Purpose/Objective: To develop and test psychometric properties of a self-efficacy tool, in Urdu language, for breast cancer patients undergoing chemotherapy.

Material/Methods: The research team developed a self-efficacy tool for breast cancer patients in Urdu language, based on experience and literature. The face and content validity were obtained at the initial stages. The tool was administered to assess self-efficacy of 76 breast cancer patients undergoing chemotherapy at one public and one private hospitals of Karachi. Post-hoc internal consistency reliability was computed and principal component analysis (PCA) was performed to obtain correlated factors.

Results; The tool comprised 17 questions assessing the self-efficacy of patients on multiple dimensions, on a Likert scale of 1-4; where 1 indicated the lowest and 4 indicated the highest self-efficacy levels. The tool's face and content validity was established. Principal Component Analysis (PCA) revealed a total of five factors (all having Eigen values of >1) explaining the cumulative variance of 68.7%. The items of the tool were grouped together under their respective constructs on the basis of the strength of their correlations. Five constructs explaining the self-efficacy were: Self-confidence, Faith, Coping, Optimism, and Decision Making. Post-hoc internal consistency (Cronbach's alpha) value for this tool was 0.81.

Conclusion: The Urdu self-efficacy tool has sufficiently acceptable validity and internal consistency reliability. The tool needs to be used by researchers in further studies to assess self-efficacy of breast cancer patients undergoing chemotherapy in Pakistan and abroad. Moreover, further utilization of the tool in different populations will help to modify it.

149 P

MASQUERADES OF MI: THE CHALLENGE OF DIAGNOSIS AND THE LESSONS LEARNT

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Purpose/Objective: This case illustrates a rare case of Primary Refractory Hodgkin's lymphoma to involve the left atrium and left coronary circulation masquerading as an ST Elevation Myocardial Infarction. Lymphoma deposits represent 13.6% of metastatic tumours to the heart. As imaging modalities and treatment options for lymphoma improve, more unusual disease presentations may be observed more frequently. Lymphomatous involvement of the heart, previously a rarity, is now being reported with greater frequency.² Progressive infiltrative anterior mediastinal soft tissue mass invading the left atrium and left coronary circulation is a rare entity which has not been reported as yet.

Case Report: A 26- year old female was diagnosed as Stage IV Primary Refractory Hodgkin's lymphoma. She received multiple lines of chemotherapy during the course of treatment. She presented to Accident and Emergency Department earlier this year, 3 weeks after last chemotherapy with shortness of breath and epigastric pain. A 12 lead Electrocardiogram showed high Lateral wall Myocardial Infarction with reciprocal changes. Decision was made to pharmacologically reperfuse, as she presented to a non PCI centre. She was later transferred to our Intensive Care Unit for close monitoring. Repeat ECG at 60 minutes showed persistent ST elevation in the lateral leads with no improvement in either her pain or breathlessness. PET-CT was reviewed which showed tumour involvement of left coronary system.

Discussion Primary cardiac tumors are rare, with a necropsy incidence of 0.05%,⁵ whereas secondary deposits are more common, in 1% of postmortem examinations⁶ Cardiac involvement of a systemic lymphoma has been reported in up to 20% of cases, but primary lymphoma with bulk of the tumor involving the heart is very rare, accounting for 1% of primary cardiac tumors^{7,8}. A review of 12,485 autopsies over a 20- year period showed only 7 (0.056% incidence) cases of primary cardiac lymphoma (PCL). When defined strictly, PCL must involve only the heart and/or pericardium.

Conclusion: As imaging modalities and treatment options for lymphoma improve, more unusual disease presentations may be observed more frequently. Lymphomatous involvement of the heart, previously a rarity, is now being reported with greater frequency. This case illustrates a rare case of Primary Refractory Hodgkin's lymphoma to involve the left atrium and left coronary circulation masquerading as an ST Elevation Myocardial Infarction

150 P

AN AUDIT ON THE MANAGEMENT OF ADULTS WITH DIABETES MELLITUS UNDERGOING SURGERY

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Purpose/Objectives: Globally, an estimated 422 million adults are living with diabetes mellitus, according to the latest 2016 data from the World Health Organization. The greatest increase in prevalence has been noted in developing countries. There is clear evidence that poor control of co-morbidities such as Diabetes Mellitus are associated with poor surgical outcomes. The primary aim of peri operative good glycemic control is to decrease morbidity and reduce duration of hospital stay.

Material/Methods: We identified 73 patients who underwent surgery between 1st June and 30th November 2015 via hospital Medical Information System (MIS) and reviewed the perioperative management of diabetes retrospectively. Inclusion criteria were fasting glucose ≥ 126 mg/dl or random glucose ≥ 200 mg/dl or HbA1c 7% or more. We used guidelines on management of adults with diabetes undergoing surgery and elective procedures by Joint British Diabetes societies (JBDS) for Inpatient care as our standard.

Results: 56% patients were taking oral hypoglycaemic agents (OHAs) only, 25% on OHA and Insulin, 16% on insulin only and 3 % on no OHA. 93% of patients had prior diabetes control assessment to surgery, however diabetic medications were not documented in 60% of cases in admission notes. Routine diabetic medications were prescribed in only 7%. Average duration of starvation was 10.6 +/- 3.4 hours SD. Everyone received subcutaneous Insulin sliding scale with average duration of 4.7 days. 55% patients had capillary blood glucose outside target of 110 -180 mg/dl. There were 11 reported episodes of hypoglycaemia. None of the patients developed diabetic ketoacidosis.

Conclusion: Based on the above findings, the current peri-operative management of diabetes in patients at our institute is sub-optimal. Therefore it is recommended that we develop a protocol via which there is early identification of patients with diabetes, reduced duration of starvation and implementation of intravenous insulin with close monitoring in selected patients.

151 P

FUNGAL INFECTIONS OF CENTRAL NERVOUS SYSTEM: A RETROSPECTIVE REVIEW OF CLINICAL FEATURES AND OUTCOMES

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PAKISTAN

Purpose/Objectives: Our aim was to review the clinical features, management and outcomes of patients with central nervous system (CNS) fungal infections.

Materials/Methods: In this retrospective study, all patients with CNS fungal infections from 2006 to 2016 were included. Data was collected from the hospital information system and analyzed for clinical presentation, imaging, histopathology, treatment and outcome of these patients.

Results: A total of 16 patients with CNS fungal infection were identified; among them 12 (75%) were males and 4 (25%) were females. The majority 11 (68.75%) did not have cancer. Headache with focal deficit (43.7%) and fits with altered behavior (25%) were common presentations. Mass lesion in the brain (56.25%) was the most common radiological finding on MRI. MR-Spectroscopy was done in four (25%) patients that suggested tumor as likely diagnosis but on subsequent biopsy proven as fungal infection. In our patients, biopsy was done in 11 (68.75%) patients and granulomatous inflammation with septate hyphae was found in 10 (62.5%) patients. Aspergillosis was found in half of the patients. Frontal and temporoparietal lobes were common sites of infection at 37.5%, each. Surgical excision was done in six (37.5%) patients, while all received antifungal drugs, mean duration of treatment was (176.50 ± 111.83) days. Eleven (68.75%) patients showed symptomatic improvement and a decrease in size of mass lesion was recorded in half of the patients. All-cause mortality was 25%.

Conclusion: CNS fungal infection is a rare disease; apparently healthy individuals are also susceptible to this infection. Mass lesions of brain should be biopsied for definitive diagnosis and better outcome.

152 P

ESTIMATING MALNUTRITION AT DIAGNOSIS IN NEWLY DIAGNOSED PEDIATRIC ONCOLOGY PATIENTS

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Purpose/Objective: 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.

Material/Methods: 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 25th 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.

153 P

PRE-PRINTED STICKERS ON CONSENT FORMS: STANDARDISATION AT NO EXTRA COST

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Purpose/Objective: We previously found inconsistencies in benefits/risks written on consent forms by various surgeons. Due to cost issues, we were unable to obtain pre-printed consent forms. Hence we developed our own consent stickers and compare them with hand-written consent forms.

Materials/methods: Consent stickers were generated for 11 commonest operations, including their names, benefits and risks. They were printed on patient identity labels, readily available in hospital. A short questionnaire was given to various staff, involved with theatre WHO checklist, to indicate their preference of sticker/hand-written consent. A patient satisfaction survey was carried out for both types of consent forms.

Results: Over 9 months, 167 consent forms were filled with pre-printed stickers (111 general and 56 breast operations). A comparable number of hand-written consent forms were used. 77 staff members and 125 patients were surveyed: Amongst 77 staff members surveyed, 39 analysed pre-printed stickers consents and 38 looked at hand-written forms. 39/39 (100%) staff considered pre-printed stickers as 'excellent' in terms of ease of reading and ease of understanding. On the other hand, ease of reading for hand-written forms was classified as good (4), satisfactory (11) and poor (23). Ease of understanding for hand-written forms was good (3), satisfactory (27) and poor (8).

125 patients participated in survey; 64 pre-printed stickers and 61 hand written forms. Ease of reading by patients was classified excellent (61) and good (3) in 64 pre-printed stickers consents, whereas it was given good (4), satisfactory (22) and poor (35) in 61 hand-written forms. Similarly ease of understanding by patients was classified excellent (61) and good (3) in 64 pre-printed stickers consents, whereas it was given good (3), satisfactory (27) and poor (31) in 61 hand-written forms.

Overall patient satisfaction with pre-printed stickers: Median 10 (range 9-10)

Overall patient satisfaction with hand-written forms: Median 3 (range 2-10)

91% (70/77) staff preferred using pre-printed stickers, 3 preferred hand-written forms and 4 showed no preference. 115/125 (92%) patients preferred pre-printed stickers, 3 preferred hand-written forms and 7 showed no preference.

Conclusions: Pre-printed stickers on the consent forms make them standardised, eliminating inconsistencies amongst various surgeons, achieving high satisfaction scores with patients. Majority of the staff as well as patients preferred using them because they are legible, understandable, save time, and they bear no extra cost to the health provider.

154 P

ROLE OF A CLINICAL ETHICS COMMITTEE AT A CANCER TREATMENT FACILITY IN PAKISTAN

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Purpose/Objective: Medical advances contribute to increasingly complex ethical issues in health care. In oncology, dilemmas faced during resuscitation decisions and withdrawal of care can lead to conflicts in end of life (EOL) care. Ethics consultations are invoked in such cases via clinical ethics committees (CECs). At our hospital this forum exists as the **Hospital Ethics Committee (HEC)** which acts as an advisory committee for clinical ethics consults and creates awareness on ethical issues in healthcare within the hospital. This abstract gives an over view of its activities.

Material and Methods: HEC was formed in 2005 and has a diverse membership from various professional backgrounds. A consult is raised when there is a moral/ethical conflict between either two health professionals, or patient/family and physician, during patient care. Consult is triggered by any of the involved parties who can reach an on call HEC member 24 hours a day. HEC members then meet to deliberate on the issue and give recommendations based on morally and ethically defensible grounds and in the patient's best interest. HEC use various strategies for ethics education of healthcare staff including workshops, lectures, discussion sessions and an email discussion group

Results: HEC received its first ethics consult in 2010 and has received a total of 15 consultation requests since then. Referred cases involved dilemmas in Do Not Resuscitate (DNR) decision making, withdrawal of life sustaining treatment or nutritional support, futility of care, treatment refusal by patient proxy, ethical predicaments in treatment of children and use of efficacious costly treatments. Challenges faced during these activities included lack of legal standing of HEC recommendations, deficit in legal framework for EOL decisions in Pakistan, ensuring adequate involvement of religious aspects in EOL decision making, inclusion of lay members and paucity of ethics consult referrals to HEC, possibly because of lack of awareness. A summary of HEC educational activities is given in table 1 below.

Conclusion: HEC plays a role in sensitizing healthcare workers to ethical dilemmas involving patient care. Our experience highlights need for improved awareness of ethical issues amongst healthcare professionals and development of a legal framework for EOL care.

155 P

EVALUATION OF NEGLECT IN CONSENT FORM SUBMITTED FOR ETHICAL APPROVAL

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Purpose/Objectives: Main objectives of the current study were to assess the inattention to ethical considerations in preparation of consent form by researchers, to evaluate the role of Institutional Review board (IRB) in improving the information provided to patients through informed consent form and to assess which ethical criteria are routinely neglected in informed consent forms.

Material/Methods: The current study is a pilot study of document analysis study/mixed method research that will involve evaluating consent forms of research proposals submitted to IRB Shaikh Zayed Medical Complex SZMC over a period of 9 years. Current pilot study involved evaluating proposals submitted during 3 IRB meetings and included 39 submitted proposals, selected from 9 year period via lottery method.

The SZMC IRB evaluates each consent form against its own set of 16 ethical guidelines for consent form preparation. A 15 point scale was developed based on these guidelines to assess how close researchers adhered to recommended ethical considerations. Each consideration met by submitted consent form was given a score of 1 (total score = 15). Every consent form was ranked twice, once at initial submission and secondly at final revision. A percentage of criteria met were assessed for all consent forms before revision and after final revision. Consent forms were classified into 4 categories on the basis of percentage scores, 0-25% inappropriate, 26-50% major revisions required, 51-75% appropriate (minor revisions) and 76-100% as very appropriate.

Results: The study showed that majority (>70%) of the consent forms included in pilot study ranked as 'appropriate'. One of the consent forms (2.56%) ranked as 'inappropriate' or met less than 25% of the recommended ethical criteria. Approximately 23% of consent forms were ranked as 'major revisions required' by meeting less than 50% of set criteria, and 5% ranked very appropriate. 18% of total submissions improved their score following IRB recommendations.

Conclusion: Our results showed that majority of researchers routinely adhere to ethical criteria laid down by IRB. However some areas are routinely neglected and need improvement. To have a more objective approach, IRB should use a checklist based on its own criteria for evaluation of every consent form submitted for research purposes involving human participants.

156 P

A STUDY OF ENHANCING PATIENT'S SAFETY MANAGEMENT THROUGH PATIENT EDUCATION AND EMPOWERMENT

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ARMED FORCES BONE MARROW TRANSPLANT CENTRE, RAWALPINDI, PAKISTAN

Purpose/Objective: Nurses can play an integral role in patient safety and education. The main objective of this research work was to investigate level of education already received and used by the patients toward their disease management and safety. As result of this research we will be able to adopt patient centered approach for future patient education at our center.

Material/ Methods: Prospective observational study was designed to achieve our set forth aims and objectives. A questionnaire was used to assess patient's education level regarding their disease and its safe management. Level of patient satisfaction and their feedback for patient's education, in addition variables such as patient's age, disease, and education level were also recorded. Data was collected from bone marrow transplant center Rawalpindi, Pakistan.

Results: For this observational and descriptive form of research a total of 50 responses were collected from bone marrow transplant patients. Among these patients male to female ratio was 30:20. Patient included were of aplastic anaemia (n=14), acute myeloid leukemia (n=9) and others were 27. About 48 of these patients had education level under or equivalent to matric. Only 2 of these patient had master level qualification. It was noted that majority of patients received written information regarding their disease and its further management. 47 of these patients received direct information from health care providers with significant level of satisfaction (94%). Information given through direct consultation and counselling was preferred by 74 % responders. However 38% responders felt need to receive more information regarding their disease progression and its management. Responders (54%) strongly agreed that medicational errors can be prevented by receiving sufficient information through health care providers. Thereby assuring patient's safe management.

Conclusion: It was concluded that patients who received sufficient information regarding their disease management through health care providers were satisfied. However most of the responders desired to receive information through direct counselling.

157 P

NUTRITIONAL ISSUES REPORTED IN STOMA SUPPORT GROUP AT SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE**JAVID R****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN**

Purpose/Objective: Patients with stoma face many nutritional problems post operatively. Main issues reported were resuming normal diet after surgery, fear of constipation as before surgery, bloating after food intake, water intake with stoma in place, increase in stoma output. Foods to avoid after surgery were also a main concern. Some patients were able to maintain weight but some came with ongoing weight loss during treatment and needed regular follow up in nutrition clinic.

Material/Methods: The study was conducted to explore frequency of nutritional issues in patients with colostomy and ileostomy. Data was collected from patients coming in stoma support group. 101 patients were asked questions and there answers (yes/no) for each category were analyzed using frequency table.

Results: Concerns for resuming normal diet after surgery was shown by all (100%), fear of constipation 59.4%, bloating after food intake 56.4%, water intake 49.5%, increased stoma output 40.5%, and foods to avoid 100%. 32.7% patient suffered weight loss, while 18.8% patients gained weight and 43.6% patients were referred to nutrition clinic for regular monitoring.

Conclusion: These findings indicate that there is need to provide counseling services to patients post-operatively so that they can better adjust with nutritional issues and patients at risk of malnutrition can be screened.

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RESEARCH ETHICS TRAINING PROGRAMME FOR PHYSICIANS, SURGEONS AND RESEARCHERS AT SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE (SKMCH&RC)

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Purpose/Objective: The **Research Ethics Training Programme** is an educational venture of the clinical research office which was initiated to enhance awareness of ethical issues in medical research, amongst physicians, surgeons and researchers at SKMCH&RC. Objectives included

- To sensitize the target audience to the need for research participants protection
- To create awareness of the process of ethics review of research
- To help the audience in identifying and addressing ethical issues in research
- To enhance awareness of research misconduct and publication ethics

This abstract summarises the programme experiences over a three year period.

Material and Methods: The programme ran annually from July 2011 to Jan 2014 and consisted of nine weekly sessions that were followed by a brief exam. The programme format involved interactive case discussions and use of local teaching videos. The topics covered under this programme are outlined in Table 1. Participant nominations were sought via heads of all departments. The minimum attendance requirement was 66% (six out of nine sessions) and minimum pass mark was 75% for the post-test which contained 24 multiple choice questions and one open ended question.

Results: 34 (81%) of 42 nominees completed the course of which 26 were male and six were female. Nominations were received from medical and surgical oncology, research, nuclear medicine, radiology and internal medicine. Participants who completed the course included twenty two fellows, six residents, three research associates and one physician. The average attendance for each session was 66% (2011), 55% (2012) and 79% (2013) respectively. The average exam score ranged between 74% - 94%. Feedback from participants highlighted strengths which included interactive nature of the sessions, use of case studies for discussion and enhanced knowledge about ethics review process, plagiarism and publication ethics. The identified weaknesses highlighted that more focus was needed on ethics review process, need for combining these sessions with broad based research training and to have greater discussion on ways to address ethical issues in research.

Conclusion:

The research ethics training has helped create awareness of ethical issues amongst those conducting research at SKMCH&RC. Formal programme impact evaluation is being planned currently.

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“ASSESSMENT OF PATIENT’S UNDERSTANDING OF PCA & E-PCA USAGE AT THE TIME OF DISCHARGE, A COMPARATIVE ANALYSIS”**R.TASLEEM, DR. KHAN A.W.****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN.**

Purpose/Objective: Pain control remains a major concern for patients undergoing surgery. Proper education for the patients regarding PCA and E-PCA usage can minimize the surgical complications, post-operative morbidity, unplanned admissions of day case patients, prolonged hospital stay and increases their quality of life. The goal of this study is to define the level of patient’s understanding regarding the proper use of PCA vs E-PCA at the time of discharge from the hospital, in post-operative population at SKMCH & RC.

Material/Methods: This was a retrospective survey over a period of 3 months from 1st June 2016 to 31st August 2016. A Performa-based survey was carried out for the assessment of patient’s education level in relation with PCA and E-PCA usage at the time of discharge. Survey was conducted during 3 months period from June to August 2016. 36 patients aged 16–86 years were included. The patient’s understanding regarding PCA & E-PCA use was recorded for 72-hours postoperatively and at the time of discharge from hospital. Different factors used for correlation were gender, language and type of surgery etc.

Results: In PACU & then in IPD, the level of understanding regarding use of PCA & E-PCA in our patients was 99%. Level of understanding in female and male patients were same. And similarly the type of surgery had no bearing on the level of understanding. The minor gap of 1% was attributed to language barrier (Persian, Pashto etc.).

Conclusion: Overall understanding level of the patients regarding PCA & E-PCA usage is 99% in our institution. We need to improve departmental clinical practice by optimising the PCA & E-PCA education for both staff and patients on regular basis to provide quality patient care.

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DECREASE IN FINANCIAL BURDEN ON PATIENTS BY REDUCING LENGTH OF HOSPITAL STAY AND EXPEDITE THE PROCESS OF CYTOTOXIC DRUGS ADMINISTRATION IN INPATIENT AREAS

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Purpose/Objective: It has been observed that in inpatients area administration of chemotherapy getting delay, which is affecting on increase in length of stay in hospital associated with increase cost resulting in increase dissatisfaction among patient and families 8-10 incidents reported. A project started in inpatient area to identify reasons of delay in chemotherapy administration process. Chemotherapy administration process includes four areas: admission for chemotherapy, chemotherapy order entry by physician, chemotherapeutic drug dispense by pharmacy administration of drug by nurse. Delays can occur in any of above areas.

Material/Methods: PLAN OF PROJECT Patient's information collected from 15th February 2012 to 9th march 2012. (Sample size was 25).Sample size was small therefore again patients data collected from 12th February 2013 to 15th May 2013. (Sample size was 100). Cross sectional surveys were done in 2012 and 2013 to find out: Reasons of delays. Target the area of delays to correct the problem. Find the ways to remove constrains and expedite the services of chemotherapy administration in inpatient areas. **Implementation in 2012 -2013** All services timing were reviewed and documented on delays chemotherapy sheet. All services time were analyzed by management engineering department. Delays time in b/w admission and physician orders. Delays time in b/w Physician order & Pharmacy dispensing. Delays time b/w pharmacy dispensing & Administration of Chemotherapy. Delays time b/w Physician order & Administration of chemotherapy. All services cumulative time comparison done.

Results:

Conclusion of 2012: Pharmacy dispensing and administration of the chemotherapy time delay was 9 hrs. Patient admission and physician order time delay was 6.5 hrs. Physician order and pharmacy dispensing delay was 2.5hrs. The cumulative delay was 10.5 hours in between Physician order and chemotherapy administration. Conclusion of 2013: Delays identified in sending blood sample to the Lab for tests after patient arrival in the unit. (46% of the patients admitted without Lab Test). Significant delays identified in the chemo drug entry for those patients that arrived in the unit after 4pm. There is a possibility of improvement in the Pre-chemo and Chemo drug administration. Audit was conducted in 2015 to check implementation of suggestion given above in 2012- 2013. Project mission for audit in 2015: The primary aim was to reduce inpatient length of stay by timely administration of cytotoxic drugs, to minimize the stay and cost of hospitalization, to increase patient's satisfaction and to reduce hospital acquired infection.

Conclusion: The results of audit in 2015 conclude that, there is great improvement in almost all the processes and all patients for 46 and 96 hrs infusion of 5FU are now accommodated in day care oncology after introduction 5FU infusion pump which further decrease hospital stay and financial burden and increases patient's satisfaction.

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PSYCHOSOCIAL NEED OF PARENTS WHO HAVE A CHILD WITH CANCER: A CHALLENGE FOR PEDIATRIC ONCOLOGY NURSES.**N ILYAS****UNIVERSITY OF HEALTH SCIENCES, LAHORE, PAKISTAN**

Purpose/Objectives: Parenting a child with cancer is a painful experience. Parents of children with cancer use information to know about the disease and they need support from health care providers to deal with their stresses. The literature has not clearly identified the role of pediatric oncology nurses in providing information. The aim of this article was to conduct a comprehensive review of the literature to explore psychosocial needs of parents who have a child with cancer and identify the role pediatric oncology nurses' role to comply with their needs.

Material/Method: The review was conducted systematically by using Academic Search Complete, Cochrane, CINAHL, Ovid, PubMed, and Google scholar. The search was undertaken using key words child, cancer, parents, information, and support in combinations using Boolean operators (AND).

Result: Thirty five articles found to search the evidence, all articles topics matched, but did not exactly meet the criteria. There were only seven studies that fulfilled the criteria and also provided a global view of literature. Three used quantitative methods, three used qualitative methods and one used mixed method. All studies examined the psychosocial needs of parents and found information need as primary outcomes. The Critical Appraisal Skills Program (CASP) tools were used to check the quality of papers to ensure that the findings were applicable to practice.

Conclusion: Nurses can contribute to the care of a child suffering of cancer by providing correct and adequate information to their parents. But the complexity of the disease and advancement in treatment place many challenges for nurses. There is a great need of continued professional education for pediatric oncology nurses to meet these challenges and to provide evidence-Based care.

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NEEDLE-STICK INJURIES (NSI) ARE COMMON AMONG FEMALE NURSES OF TERTIARY CARE HOSPITALS OF LAHORE**SHAMAILA HASSNAIN, ZARBAKHAT HASSAN, SEHAR AMJAD, ZUNAIRA ZAIN,****HEALTH SCIENCES, FMH COLLEGE OF MEDICINE & DENTISTRY. LAHORE, PAKISTAN**

Purpose: Objective: This study was conducted to assess whether needle-stick injuries in female nurses are common at a public and private tertiary care hospital of Lahore. In addition, this study assessed the knowledge, attitudes and practices of female nurses with regards to the prevention, management and reporting of the needle-stick injury.

Material/Methods : A cross-sectional study was conducted to determine a total of 386 nurses of both public & private hospitals including all female nurses who are registered and working in selected tertiary care hospitals except the residents, interns, undergraduate medical students, student nurses, retired nurses and nurses on sick & maternity leave. Interviews using a structured questionnaire were conducted.

Results: The results revealed that out of 386 nurses (44%) in public and (26.4%) in private hospitals experience NSI in the past one year. The study nurses had a mean age of 28 ± 6.34 years. Highest proportion of injuries in both hospitals occurred while disposing or recapping needles (42.4 %) and (62.7 %) in public and private respectively, especially in morning shift (62.7%) in private and (49.4%) in public. The syringe needles (60%) in public and (88.2%) in private hospitals are responsible for causing NSI. Our study showed (91.2%) of public and (86%) of private sectors were vaccinated against HBV and (79.3%) of public sector and (77.7%) of private sector had completed the recommended course of vaccination.

Conclusion: Needle stick injury is the most important occupational health hazard in nurses with alarmingly high rates. It is recommended that Nurses should be informed about and encouraged to attend training courses relating to needle stick injuries. Hospitals should develop a proper protocol which conforms to the latest World Health Organization (WHO) guidelines for the prevention and management of needle-stick injuries

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SELF-MANAGEMENT OF CHEMOTHERAPY-RELATED NAUSEA AND VOMITING IN ADULT WOMEN - A SYSTEMATIC REVIEW**MUQADDAS SARWAR****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE, PAKISTAN.**

Purpose/Objective: Chemotherapy- related side effects can be severe and can have a significant impact on a person's quality of life. Chemotherapy is being increasingly administered in ambulatory settings, so patients need information regarding effective strategies to control chemo-induced nausea and vomiting as the patient's education help them calm their fears and get better sense of control over their condition. The patient's information needs to be based on evidence. Therefore, this systematic review has been conducted to see an overview of the interventions given in researches of this area as well as an effectiveness review of self-management (non-pharmacologic) strategies evaluated in high-quality randomized controlled trials (RCTs).

Material/Methods Literature was reviewed to collect data of pervious researches on self-management strategies for reducing chemo induced nausea and vomiting. Inclusion and exclusion criteria have been identified. The quality of studies was rated for characteristics, results and methodology according to the criteria of Cochrane Collaboration. High-quality RCTs have further been analyzed to establish the effectiveness of specific self-care strategies. The selected studies were published in peer-reviewed journals between 1980 and 2014.

Results: Initially, 77 RCTs were identified. However, the quality of findings from 20 RCTs were found reasonable.

It was found that there are limited results of support provided, for instance, cognitive distraction, exercise, hypnosis, relaxation, and systematic desensitization have limitations for reducing the nausea and vomiting.

Conclusion: Even though, some interventions to reduce chemo induced nausea and vomiting seem to be promising, but the quality of the RCTs was generally quite low. So, it makes difficult to draw conclusions about the effectiveness of self-management strategies. Further researches are required with better design and reporting of methodological issues to establish evidence-based self-care management behaviors for the patients those who are receiving chemotherapy.

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IMPROVING CANCER PATIENTS SATISFACTION BY INTRODUCING A VIDEO BASED INTERVENTION

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Purpose/Objective: The burden of cancer is escalating worldwide and affecting individual's wellbeing. Chemotherapy therapy is one of the treatments of choice worldwide to combat cancer. Patient satisfaction is one of the core components in the treatment of cancer. However, the complex nature of chemotherapeutic agents and process of treatment may result in multiple physiological and psychological stressors such as: side effects of chemotherapy, anxiety related to treatment process. In addition, if the patient and their caregivers (family) are unaware of these side effects pose an additional stress which may result in dissatisfaction and noncompliance of the treatment. Therefore it is important to educate patient/families. Therefore, the purpose of this pilot project was to provide patients'/families' awareness regarding process of treatment and subsequently to improve their satisfaction level.

Methods: A case-control design was employed for this study. A total of 30 cancer patients, that is 15 as cases and 15 as controls were recruited from the day care oncology department of a private tertiary care hospital. Patients planned for their first chemotherapy cycle selected in both the groups. The participants in the control group were given the standardized education material (information brochure); whereas, for cases a video based educational material was developed and used. A self-developed questionnaire was used to assess the patient satisfaction level regarding chemotherapy process before and after the standardized and video based educational intervention. Independent T-test was used to analyze the data.

Results: the study revealed significant results for the intervention group. The overall mean score of patient satisfaction level for the cases was 18.80; whereas, in controls it was 11.93. The patient satisfaction level related to the awareness of chemotherapy process via video based intervention was significantly (p value < 0.000) higher among cases compared to the control group.

Conclusion: This study indicates video based intervention as an effective mode to assist patient go through chemotherapy process. This intervention can play a crucial role in reducing treatment related stressors and enhance patients' satisfaction level.

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NORMAL VARIATIONS IN CEREBRAL VENOUS ANATOMY AND THEIR POTENTIAL PITFALLS ON 2D TOF MRV EXAMINATION. MUHAMMAD**SAAD AHMED, SHEEZA IMTIAZ, KASHIF SHAZLEE, MUHAMMAD ALI, RAHILA USMAN****DR. ZIAUDDIN UNIVERSITY HOSPITAL, KARACHI, PAKISTAN**

Purpose/Objective: The use of cerebral Magnetic Resonance Venography (MRV) is increasing in frequency as a non-invasive means of evaluating intracranial venous system. The aim of study was to assess normal venous anatomy of the cranium and its anatomical variants in our population by using Two Dimensional Time of Flight (2D TOF) MRV.

Material/Method: A prospective study of one year was done. 204 patients who had normal MRI Brain examination were selected in this study with age range of 2 to 75 years without any gender discrimination. All MRV examinations were performed using a contiguous (2D TOF) venographic technique on Siemens Avanto 1.5-Tesla MRI scanners and were reviewed by two consultant radiologists.

Results: Out of 204 patients, 96 were males (47.05%) and 108 were females (52.94%). Overall MRV examinations were found to be completely normal in (46.07%), however, 110 patients (53.92%) had shown some of the normal anatomical variants. There was presence of Superior sagittal sinus, straight sinus and internal cerebral veins in 100% of cases. Inferior sagittal sinus was seen in (86.05%). Transverse sinus was hypoplastic in (3.92%) on right and (39.2%) on the left side. Hypoplastic sigmoid sinus was present in 51 patients and Aplastic sigmoid sinus in two patients. The flow gaps were also observed in (10.78%). The occipital sinus was identified in (8.3%), Vein of Trolard (48.03%) and vein of Labbe in (51.47%).

CONCLUSION: 2D-TOF MRV examination is a very useful imaging tool that had shown great sensitivity in determining the normal cerebral venous anatomy.

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INCIDENCE OF POSTOPERATIVE NAUSEA AND VOMITING (PONV) IN THE POST-ANAESTHETIC CARE UNIT (PACU) AND ITS CORRELATION WITH DIFFERENT FACTORS

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Purpose/Objective: PONV remains a major concern for patients undergoing surgery. PONV increases surgical complications, post operative morbidity, un-planned admissions of day case patients and prolonged hospital stay.

The goal of this study is to define scale of PONV in PACU and evaluate current anti-emetic practice in surgical procedures at Shaukat Khanum Memorial Cancer Hospital and Research Centre.

Material/Method: This was a prospective survey over a period of 3 months from June 2016 – August 2016, carried out in the PACU. A Performa-based survey assessed the incidence of postoperative nausea and vomiting (PONV) and its correlation with different factors. 295 patients aged 10–86 years were included. Survey was conducted during 3 months period of June - August 2016. PONV episodes and the need for anti-emetic medication were recorded for 2-hours postoperatively and till the time of discharge from PACU. Different factors used for correlation were gender, type of surgery, duration of surgery, type and number of prophylactic antiemetics used during surgery.

Results: In the recovery room, the incidence of PONV in our patients was 34%. Incidence of PONV in female and male patients was 48% and 39% respectively. The highest incidence according to type of surgery was observed in GI and thoracic surgery patients that was 67% in both cases, incidence of PONV in Breast, urology, orthopedic, Head and Neck, ENT, Neurosurgery, Peads, surgery were 46.5%, 30%, 21%, 59%, 40%, 0% and 0% respectively. Incidence of PONV in surgeries of short duration (<100 Mins) was 28%, it was 59% in medium duration (100-200 mins) surgeries and 27% in long duration (>200 mins) surgeries.

Important predictive factors associated with an increased risk for nausea and vomiting were female gender, a longer duration of surgery, GI, breast and thoracic surgery.

Conclusion: Overall incidence of PONV is 34% in our institution. We need to improve departmental clinical practice by optimising the drug regime and specifically identifying high risk patients for PONV to provide quality patient care.

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AN AUDIT OF SEDATION AND USE OF RICHMOND AGITATION-SEDATION SCALE (RASS) SCORES IN THE INTENSIVE CARE UNIT (ICU)**BABAR RIAZ, UMAR SADDIQUE, FATIMA AJAZ****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL & RESEARCH CENTER, LAHORE,
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Purpose/Objective: The RASS score is used to assess the level of sedation of a patient using the response to physical and verbal stimuli, eye opening and presence of severity of agitation. There is increasing evidence that increased sedation leads to increase in the number of ventilation days. Currently we do not have a sedation protocol for intubated patients in ICU to help nursing staff adjust sedative drugs dosing. We aim to review our current ICU sedation practice.

Material/Methods: We conducted a retrospective audit of 10 adult intubated patients in our ICU. Inclusion criteria included patients on mechanical ventilation for >72 hours. We looked at time spent at a high RASS Scores ($\geq+1$), ideal (0 or -1), or low (≤-2) as recorded by nursing staff. We also collected data regarding dose of sedative drugs used and documentation of sedation breaks and delirium.

Results: In our audit 6 out of 10 patients had a very low RASS score >80% of the time while they were intubated. Only 3 out of 10 patients had an ideal RASS score 50% of the time. Sedation breaks were documented in 4 out of 10 patients. There was one self-extubation. No documentation of delirium. Propofol or midazolam was used for sedation.

Conclusion: This study demonstrates that majority of patients were deeply sedated. There is a scope to develop and implement an official sedation protocol for all mechanically ventilated patients in the ICU so we can avoid over or under sedation. We need to repeat this audit following implementation of this protocol to assess appropriate use of sedation.

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ACCIDENTAL EPIDURAL CHLORHEXIDINE INJECTION - CASE REPORT**ABDUL REHMAN****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL & RESEARCH CENTRE, LAHORE.
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Purpose/Objective: Chlorhexidine solution inadvertently given through the epidural route can result into severe neurological injury

Case Report: A 33 year old male was scheduled for right partial nephrectomy, was accidentally injected with 2% chlorhexidine via the epidural route instead of normal saline. Both normal saline and chlorhexidine were kept in two identical galley pots on the preparatory trolley. The patient immediately developed severe pain in the back and became short of breath. As soon as the anesthetist realized that chlorhexidine was accidentally injected, 10 ml of normal saline was introduced in the epidural space in order to dilute the concentration of chlorhexidine solution. Procedure was abandoned and patient was shifted to the Intensive Care Unit for observation. Patient complained of backache at the site of injection with no accompanying neurological signs. MRI after 48 hours was reported as normal. 45 days later he underwent nephrectomy that proved uneventful. After lapse of 90 days from the incident the patient came to clinic complaining of leg weakness. On examination, leg numbness was positive with right leg power 3/5 and left leg power 4/5. A repeat MRI showed significant intra medullary cord abnormality with dysmorphic cord contour and evidence of adhesive arachnoiditis. At 3, 6 and 12 months follow up, repeated MRIs showed adhesive arachnoiditis with stable appearance from previous MRI scans. There was no progression or regression. Cord atrophy was stable.

Discussion: Literature reports catastrophic neurologic deficits including paraplegia, tetraplegia and even mortality with accidental chlorhexidine injection in the epidural space. Our patient did not experience severe neurologic deficits. After 2 years of regular follow-up, the patient has stable right proximal leg weakness and is limp on walking; and his MRI shows adhesive arachnoiditis, which is stable for last 2 years. What different did we do? It could be due to the immediate injection of normal saline by the anesthetist into the same epidural space immediately after accidental chlorhexidine injection.

CONCLUSION: Use of decolourised solutions of chlorhexidine in alcohol made recognition more difficult and use of identical galley pots containing de-identified solutions, one highly neurotoxic, the other harmless, was a critical source of confusion. In our institution, since the incident took place, we stopped the use of chlorhexidine and started using povidone iodine for antisepsis prior to central neuraxial techniques. We have also made a routine to have two preparatory sets, first one for the application of antiseptic which is discarded after use; and the second set for CNB procedure, which would be opened only after discarding the first set containing the antiseptic.

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OUTCOME OF PEDIATRIC PROCEDURAL SEDATION & ANALGESIA IN A TERTIARY CARE HOSPITAL FOR ONCOLOGY PATIENTS IN PAKISTAN**AMYNA BHIMANI, HUMAIRA JURAIR, ZEHRA FADOO, ANWAR HAQUE****AGA KHAN UNIVERSITY HOSPITAL, KARACHI, PAKISTAN**

Purpose/ Objective: Procedural sedation and analgesia (PSA) is pharmacologically induced state which allows patients to tolerate painful procedures while maintaining protective reflexes. It is the standard of care but there is limited data from Pakistan. Our objective was to assess the safety of the procedural sedation and analgesia in Pediatric oncology population at a tertiary care setting.

Methods: A retrospective notes and record review was conducted at the Aga Khan University Hospital,

Karachi over 4 years from January 2011 to December 2015. Patients were between ages 6 months to 16 years and were in low risk category. The combination of Ketamine and Propofol were used for PSA. Data collected on the standardized hospital PSA form. All procedures were performed by two trained persons.

Results: A total of 3042 diagnostic and therapeutic procedures were performed. Satisfactory level of

sedation was achieved for 3016 (99%) of procedures. Indication were Intra-thecal chemotherapy administration in 2283(75%), Bone marrow aspiration and biopsy in 637 (21%), PIC line insertion in 122(4.0%). Adverse events occurred in 26 (0.85%) patients including: 13 episodes of hypoxia, 09 episodes of apnea, and 04 episodes of post sedation hallucination. No major events were noted.

Conclusion: Procedural sedation & analgesia for children using Propofol and Ketamine is found safe and effective in our setting.

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WHAT IS YOUR UNDERSTANDING ABOUT SPINAL AND EPIDURAL ATTEMPT?**SIDDIQUI AM, YAHYA S.****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE,
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Purpose/Objective: The practice of spinal and epidural anaesthesia is well established all across the world over a number of years. Sighting of spinal or epidural is conducted through various approaches at various levels of the spinal column. There is scarce evidence in the existing literature about defining and declaring spinal or epidural attempt. The number of attempts definitely have its correlation with the post-spinal/epidural complications and administration of drugs like anti-coagulants. We have conducted a cross-sectional survey in Shaukat Khanum Memorial Cancer Hospital and Research Centre from majority of the members of anaesthetic division comprising of consultants, fellows and residents. Objective The aim is to gather information about the understanding among the anesthetists about the spinal/epidural attempt at their hospital and to carry this survey at a local/regional/national and then global forum.

Material/Methods: The attached survey proforma was distributed to all the participants in the survey and they were requested to fill it up anonymously and drop it back in a designated box with the anesthesia secretary.

Results: Total responses received were 20, among which only 1 doctor considered any backward movement means 2nd attempt but the majority responders think it doesn't count as an attempt. Three anesthetists responded that it's an attempt if they would redirect needle in subcutaneous tissue while majority i.e. 17 perioperative physicians believes that complete withdrawal of needle out of skin but redirecting through the same puncture site is an attempt. While 6 anesthetists still doesn't consider this as an attempt. But almost everyone considered, an attempt, once complete withdrawal of needle happens and enters through another puncture site whether through a midline or paramedian approach. All the participants accepted universally that attempting through another space makes it a second attempt.

Conclusion: Most of the complications after neuraxial blockade are associated with number of attempts. As for DVT prophylaxis with variety of pharmaceutical agents, it is of most importance, the doses of these drugs are advocated on the assumption of single spinal/epidural attempt. So a universal definition of a spinal and epidural attempt would not only decrease the complications but also increase the effectiveness of regional anesthesia and taper the patient's anxiety along with attenuation of unwanted systemic issues, at the time of procedure.

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POSTOPERATIVE PAIN MANAGEMENT IN ELECTIVE SURGERY**RACHEL TASLEEM****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE,
PAKISTAN**

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

Material/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 1st June 2016 to 31st July 2016. 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 138. Out of 138, 19(13.7%) patients were provided with PCA and 119 (86.2%) patients were provided with Epidural analgesia. Patients underwent major surgeries like gastrointestinal 101(73.1%), urology 22 (15.9%), thoracic 7(5%), Hepatobiliary 6(4.3%) & orthopedic 2(1.4%) surgeries were included in this audit. Total patients provided with PCA were 19 (13.7%), patients fully satisfied were 17(89.4%), patients partially satisfied were 2(10.5%). Total patients provided with epidural analgesia were 119(86.2%), patients fully satisfied were 99(83.1%), patients partially satisfied were 20(16.8%).

Conclusion: Our audit concluded that patient population was generally satisfied with postoperative analgesia. Overall PCA seems to be more satisfactory analgesic modality than Epidural.

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CORRELATION OF DURATION OF LARYNGOSCOPY AND NUMBER OF YEARS OF PRACTICE IN ANESTHESIA

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Purpose/Objective: Anesthesia is a skill dependent specialty, with experience clinical skills improve. We wanted to analyze the relationship between experience in terms of duration of laryngoscopy and number of years of practice in anesthesia. To compare the effectiveness of correlation of duration of laryngoscopy and number of years of practice in anesthesia.

Method: Performa based survey conducted to assess correlation of duration of laryngoscopy and number of years of practice in anesthesia. The audit period included data of anesthesia residents from **5th Sept, 2016** to **25th Sept, 2016**. Duration of laryngoscopy of all anesthesia residents was noted and recorded on the performa.

Results: Total number of residents audited in the period of 3 weeks were **45**. Out of **45**, **13 (28.8%)** were 1st year residents and **8 (17.7%)** were 2nd year residents and **24 (53.4%)** were 3rd and 4th year residents collectively. Only residents were included in this audit. The average time duration of laryngoscopy of 1st year residents was found out to be **17 seconds**, of 2nd year residents was **10 seconds** and collectively 3rd and 4th year residents was found out to be **12 seconds**.

Conclusion: These results showed duration of laryngoscopy improved with increasing practice in the field of anesthesia. However this practice can be augmented with the help of simulation.

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TEMPERATURE MONITORING IN PATIENTS UNDERGOING ELECTIVE SURGERIES**MUHAMMAD HAFIZ WASEEM ,TASLEEM R, KHAN A.W****SHAUKAT KHANUM MEMORIAL CANCER HOSPITAL AND RESEARCH CENTRE, LAHORE,
PAKISTAN**

Purpose/Objective: It has been established that patients undergoing anesthesia may become hypothermic perioperatively through various mechanisms. Perioperatively even mild hypothermia is associated with adverse outcomes including myocardial ischemia or arrhythmias, increased perioperative blood loss, increased surgical wound infection, prolonged effect of muscle relaxants, delayed recovery, shivering and increased oxygen demand. To determine the frequency of intraoperative temperature monitoring and incidence of hypothermia in different types of patients.

Material /Methods: 350 cancer patients (n=350) of multiple specialities were included in the study who underwent elective surgeries from June 2014 to July 2014 at Shaukat Khanum memorial cancer hospital and research center. All demographics of operated patients collected by a specified nurse in PACU and all data analysed. The outcome was with following results.

Results: Out of 350 cases, temperature monitoring of 100% cases was done preoperatively and postoperatively but only 3% cases had intraoperative temperature monitoring. 265(65%) cases were normothermic in PACU and 124(35%) had hypothermia (< 36 Degree Celcius). Out of 124 hypothermic cases 59(48%) patients had comorbidities and 65(52%) had no comorbidities. Out of 124 hypothermic patients in PACU 55(44%) patients were of 60-80 years of age group and 33(26%), 29(23%), 07(05%), 03(02%) were of following age groups 50-60 years, 40-50 years, 30-40 years and 20-30 years respectively. Out of 124 hypothermic cases, 51(41%) surgeries spanned more than 180 minutes and 34(27%), 25(21%), 14(11%) procedures were of 120-180 minutes, 60-120 minutes and 15-60 minutes respectively.

Conclusion: Patients of extreme age groups and of longer procedures are more prone to developing hypothermia. There is no correlation between hypothermia and comorbidities. Intraoperative temperature monitoring should be done for all surgical procedures of more than 30 minutes of duration with appropriate equipment.

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CLINICAL AUDITS CONDUCTED TO CHECK DELAYS IN CHEMOTHERAPY ADMINISTRATION PROCESS AND TO IMPROVE SERVICES IN DAY CARE ONCOLOGY AT AGA KHAN UNIVERSITY HOSPITAL

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Purpose/Objective: There were delays reported by patients in their delivery of chemotherapy administration in day care oncology, we decided to perform internal audits to rectify these issues and identify the reasons for delays from admission until initiation of chemotherapy. Following audits conducted in day care oncology for service improvement and patient’s safety in 2015 and 2016. 1-Delays in chemotherapy administration process. 2-Non availability of labs at the time of admission. 3-Time difference between patient’s arrival and initial assessment, second audit to measure improvement. 4- Time difference between patient’s arrival and initial assessment, third audit to measure improvement. 5-Incidents of extravasations in day care oncology.

Method: **First audit** on delays in chemotherapy administration process, time duration of each process was collected and documented on audit tool. Sample size was 109; we collected information of patients from 14th April to 13th May, 2015 data was analyzed by management engineering department. Check points are admission time of patient, arrival time of patient into day care, initial assessment time, order entry in CPOE time, chemotherapy receiving time from pharmacy and time of administration of chemotherapeutic drugs. **Second audit** on non-availability of labs at the time of admission, investigate the impact of non-availability of lab results on delays in chemotherapy administration process. An audit tool was developed to collect the data, sample size was 224 collected from 12th to 29th January 2016, check points are date and time of admission, date of lab test reports prior to admission, date and time of lab test reports post admission and time of chemotherapy order entry in computer by physician. **Third audit** on time difference between patient’s arrival and initial assessment of patient to measure improvement, data collected from 1st to 16th March 2016, sample size was 208. **Fourth audit** on time difference between patient’s arrival and initial assessment of patient to measure improvement, Patient’s data from 7th June to 25th August 2016 was collected, Sample size was 287. **Fifth audit** conducted on incidents of extravasations in day care oncology. Patient’s data collected from 12th February to 15th June 2016.

Results:

Result of first audit: Sample size=109
Results of second audit: Sample Size=224

PROCESS	Bench Mark	AVERAGE (HH:MM)	MAX(HH:MM)	MIN(HH:MM)	Compliance%	Non-Compliance %
Arrival of patient time	15 minutes	0:04	0:14	0:02	100%	-
Height and Weight time	15 minutes	0:14	1:10	0:01	72.5%	27.5%
CPOE time	2 hrs	0:51	3:04	0:02	93.6%	6.4%
Pharmacy dispatch time	2 hrs	1:11	3:45	0:16	92.6%	7.4%
Administration time	30 minutes	0:06	0:22	0:01	100%	-
Patients with lab results-117 (52%)		Patients without lab results-107(48%)				
Chemotherapy orders entered on time		Delayed		Chemotherapy orders entered on time		Delayed
94 (80%)		23(20%)		83 (78%)		24 (22%)

Results of third audit: Sample Size=208 # Assessment done within 15 minutes=115; # Assessment done after 15 minutes=93

Comparative Analysis

AUDIT MONTH	AVERAGE (HH:MM)	MAX (HH:MM)	MIN (HH:MM)	Compliance Percent	Non-Compliance
May – 2015	0:14	1:10	0:05	72.5%	27.5%
March – 2016	0:17	1:10	0:01	55%	45%

Results of fourth audit: Sample Size – 287 # of Assessment Done Within 15 Minutes=212; # of Assessment Done After 15 Minutes=75

Comparative Analysis

AUDIT MONTH	AVERAGE (HH:MM)	MAX (HH:MM)	MIN (HH:MM)	Compliance Percent	Non-Compliance
May – 2015	0:14	1:10	0:05	72.5%	27.5%
March – 16	0:17	1:10	0:01	55%	45%
June&July – 16	0:13	4:08	0:00	75%	25%

Results of fifth audit: Sample size=5461; Incidents of Extravasations; 7(0.12%)

CONCLUSION In first audit compliance more than 90 % is seen in three out of four processes, in process of initial assessment of patient compliance was only 72.5 %. Therefore we decided to re-audit only this one process after 6 months, in second audit results, the impact of non-availability of lab results on delays in chemotherapy administration process is insignificant that is only 2%. In third and fourth audit on initial assessment of patient, comparative analysis concludes that compliance rate was improved from 55% to 75% after intervention done by Head nurse and separating initial assessment process into two area. In fifth audit 7 (0.12%) incidents of extravasations reported, which is minimum and there is no need of any changes in this process is required. Results of audit 2015 The results of audit in 2015 conclude that, there is great improvement in almost all the processes and all patients for 46 and 96 hrs infusion of 5FU are now accommodated in day care oncology after introduction 5FU infusion pump which further decrease hospital stay and financial burden and increases patient’s satisfaction.

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INADVERTENT EPIDURAL CATHETER REMOVAL & THE EFFECT OF TUNNELLING

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Purpose/Objective: To audit the incidence of accidental migration and unscheduled removal of epidural catheters placed for postoperative analgesia, and to examine the effect of epidural catheter tunneling (under the skin) on the accidental catheter migration.

Methods: An audit of all the epidural catheters inserted for analgesia during and after surgery, and looked after by anaesthetist and pain nurse in Operation theatre, Post Anaesthesia Care Unit and In-patient department. Some of the catheters were tunneled, decision purely at the discretion of attending anaesthetist, while other catheters were not. The tunneled and non-tunneled catheters were fixed using transparent adhesive tape (Tegaderm™). The Tegaderm dressing was further reinforced at edges and rest of the length of the epidural catheter with non-transparent adhesive taping leaving the site of insertion visible through the transparent dressing. Tunneling was done 2-3 cm under the skin with the help of 16 G Cannula or Touhy needle. All the data collected on the performa, from the notes of the patients. The data has been transferred to and compiled after the audit duration to the MS Excel.

Results: 343 epidural catheters were placed in the 5 months period, between 1st April 2016 to 31st August 2016. Out of 343 epidural catheters, 90 were tunneled (26%) and 253 were non-tunneled (74%). Overall incidence for accidental catheter dislodgement and unscheduled removal remained 32 (35.5%) out of 343. In tunneled group the incidence of accidental dislodgement was less, 7 (7.7%) out of 90, as compared of non-tunneled which remained almost four times more i.e. 25 (9.8%) out of 253.

Conclusion: Accidental dislodgement or migration of epidural catheters was the commonest cause of unscheduled removal of epidural catheters inserted primarily for postoperative pain relief. Tunneling epidural catheters under skin had a remarkable effect on avoiding accidental removal. Our data has discrepant number in tunneled versus non-tunneled group which may have affected the overall results. Better documentation and further evaluation in different groups may yield more elaborate results. Further study needs to be conducted to determine the effect of tunneling and overall impact on catheter migration and related complications.