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The 4th Annual Scientific Meeting of the Malaysian Division of the International Academy of Pathology was held in Kota Bharu, Kelantan, Malaysia on 9-11 September 2017. Abstracts of poster presentations are as follows:

PP001. Demographics of *Helicobacter pylori*-positive gastric biopsies: a preliminary finding

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Introduction: *Helicobacter pylori* infection remains an important cause of peptic ulcer disease worldwide, especially in developing countries. In Malaysia, racial differences in prevalence of *H.pylori* infection have been reported. Histopathological detection remains the gold standard for diagnosing *H.pylori* infection. This study aims to i) identify frequency of gastric biopsies positive for *H.pylori* organisms in our institution, ii) identify the demographic data of patients with *H.pylori* positive gastric biopsies, and iii) correlate bacterial presence with degree of inflammation. ***Methods***: All consecutive gastric biopsies reported in Anatomic Pathology Unit, UiTM from January to June 2017 are reviewed, and cases positive for *H.pylori* are identified. The demographic data and clinical information are extracted from the request forms. The slides are reviewed to confirm infection and grade the degree of inflammation. ***Results***: 43 of 217 (19.8%) gastric biopsies received in our unit from January to June 2017 are positive for *H.pylori.* 29 of the patients are males, while 14 are females. Positivity according to racial groups are as follows: Malays = 13, Chinese = 14, Indians = 15 and other = 1. Majority of the patients are 40 years or older (33/43, 76.7%). Moderate to severe chronic inflammation are seen in 41 of the 43 cases (95.3%). All cases show active inflammation. ***Conclusion***: Larger cohort is required to assess the latest in racial prevalence of *H.pylori* infection. The presence of chronic, and especially active inflammation, should prompt active exclusion of *H.pylori i*nfection.

PP003. Expression of vascular endothelial growth factor (VEGF) and its receptor (VEGFR) in thyroid nodular hyperplasia and papillary thyroid carcinoma (PTC)

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Introduction: Vascular endothelial growth factor (VEGF) is an angiogenic factor that is important in thyroid cancer. VEGF is known to have high affinity to VEGF receptors (VEGFR) like VEGFR-1 (Flt-1) and VEGFR-2 (KDR). Papillary thyroid carcinoma (PTC) is the most common thyroid cancer, and studies showed the increasing incidence of PTC arising in nodular hyperplasia (NH). The study aims to determine the expressions of VEGF and VEGFR in thyroid NH and PTC. ***Methods***: A cross sectional study based on paraffinized archival tissue blocks of 113 nodular hyperplasia and 67 PTC from thyroidectomy specimens between 2003 to 2014. The tissue sections were stained with immunohistochemistry for VEGF, VEGFR-1 and VEGFR-2. Also included lymph node involvement and extrathyroid extension. ***Results***: The mean age of PTC patients was 44.7±15.8 years and NH were 42.2±13.6 years. There was a statistical difference of VEGFR-1 ($p=0.028$) and VEGFR-2 ($p=0.003$) expressions between NH and PTC. No significant difference of VEGF expression ($p=0.576$) between both diseases. Co-expression of VEGF and VEGFR-1 was significant in both NH ($p=0.016$) and PTC ($p=0.03$), meanwhile no relevant relationship for VEGF and VEGFR-2 expression ($p>0.05$). No significant association ($p>0.05$) between lymph node status and extrathyroid extension with age, gender, VEGF and VEGFR expressions. ***Conclusion***: VEGF, VEGFR-1 and VEGFR-2 showed overexpression in both NH and PTC. The expression of VEGFR-1 and VEGFR-2 more significant in PTC with relevant co-expression of VEGF and VEGFR-1.

PP004. STAT6 immunohistochemistry as diagnostic adjunct in solitary fibrous tumour.

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Introduction: Solitary fibrous tumour (SFT) is a fibrotic neoplasm, also formerly designated as hemangiopericytoma. It shows a prevalence of 2% of soft tissue tumours. The histological features composed of 'patternless' appearance of small rounded fusiform cells showing no obvious light microscopic features of differentiation with staghorn partially hyalinised vessels. It is very important to distinguish solitary fibrous tumour from other mimic histological lesion such as synovial sarcoma, liposarcoma, desmoids fibromatosis, fibrous histiocytoma, dermatofibrosarcoma protuberans, gastrointestinal stromal tumour, malignant peripheral nerve sheath tumour, schwannoma, and spindle cell lipoma, as these individual tumours warrant different treatment as well as harbour characteristic prognostic features. The aim of this study is to determine whether STAT6 is a useful diagnostic adjunctive marker for solitary fibrous tumour and among other lesions which are histologically similar. ***Methods***: We evaluate a total of 30 cases material formalin fixed paraffin embedded tissue block previously diagnosed SFT cases (n=14) and soft tissue tumours mimic cases (n=16) in Universiti Kebangsaan Malaysia Medical Centre and Hospital Kuala Lumpur. We compared and evaluated STAT6 expression between SFT and other soft tissue histological mimics. ***Results***: 14 SFT cases (100%) showed nuclear expression of STAT6, which was usually diffuse and intense. All other tumour types were negative for STAT6, except for one case of dedifferentiated liposarcoma, one gastrointestinal stromal tumour and one spindle cell lipoma which showed weak nonspecific cytoplasmic staining. ***Conclusion***: We concluded that expression of STAT6 is useful and reliable adjunctive marker for solitary fibrous tumour.

PP005. Hedgehog signalling molecules, Sonic, GLI1, PTCH1 are highly expressed in bladder cancer

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Introduction: Hedgehog signaling pathway is important for growth and patterning during embryonic development. Previous studies have shown that constitutive activation of Hedgehog pathway lead to various types of malignancies including medulloblastoma, basal cell carcinoma, gastrointestinal, breast and prostate cancer. The purpose of this study was to investigate the expression of Hedgehog pathway proteins in bladder cancer and determine their association with clinicopathological parameters. ***Method***: The expression of Sonic hedgehog (SHH), its receptor Patched 1 (PTCH1) and downstream transcription factor GLI1 in 112 bladder cancer tissues from Hospital Kuala Lumpur were determined by immunohistochemistry using rabbit monoclonal anti-SHH antibody (1:300; AB53281; Abcam), rabbit monoclonal anti-GLI1 antibody (1:200; AB134906; Abcam) and rabbit polyclonal anti-PTCH1 antibody (1:150; AB53715; Abcam). ***Results***: SHH was overexpressed in 108 (96.4%) cases, GLI1 in 104 (92.9%) cases and PTCH1 in 111 (99.1%). Immunohistochemical staining results showed that SHH and GLI1 proteins were mainly located in the cytoplasm of tumour cells, whereas PTCH1 was mainly located in the nucleus. Positive expression of SHH, PTCH1 and GLI1 proteins were correlated with a few variables which include grade and stage of bladder cancer, lymph node metastasis and distant metastasis. There is no significant correlation between the expression of these three proteins with any of the parameters. ***Conclusion***: SHH, GLI1 and PTCH1 were overexpressed in the majority of bladder cancer. The role of each signaling molecule in the pathogenesis of bladder cancer warrants further investigations.

PP006. Registered causes of death in the Forensic Unit, Hospital Universiti Sains Malaysia

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Introduction: In the past several years cardiovascular diseases accounted for nearly 30 percent of death worldwide. It is estimated that for total cancer deaths in 2008 were 7.6 million worldwide. The main aim of this study was to examine the common causes of death in Hospital Universiti Sains Malaysia (USM). ***Methods***: A retrospective analysis of the causes of death recorded in Hospital USM, from 1st April 2016 till 24th May 2016 as registered at the Forensic Unit. Statistical

descriptive analysis by SPSS program version 22. ***Results***: The result has indicated that 35 (23%) out of 152 registered death caused by cardiovascular diseases in Hospital USM. Acute coronary syndrome was the main cause as it contributed to 21 out of 35 cardiovascular disease cases. Among the other cardiovascular disease were cardiac arrhythmias, infective endocarditis and congenital heart disease such as patent ductus arteriosus. Meanwhile, 18 (11.8%) of death was caused by cancer. Carcinoma of the gastrointestinal tract accounted for 6 out of 18 cases with a majority of the cases of colorectal carcinoma and gastric carcinoma. Other cancers include breast cancer, leukaemia and yolk sac tumour. ***Conclusion***: The results determined that cardiovascular diseases and cancer are two main causes of death in Hospital USM, following the trend as reported in the literature. A longer duration of study is required to ascertain the pattern of cause of death in this hospital.

PP007. Expression of p40 immunohistochemistry in non-small cell lung carcinoma.

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Introduction: Lung cancer is the third most common cancers worldwide and in Malaysia. With the major advances in molecular testing of lung cancers and introduction of targeted therapies, the distinction between adenocarcinoma and squamous cell carcinoma (SCC) and its pathologic subtyping becomes important. Recent studies showed that p40 is highly specific for squamous and basal cells, and superior to p63 for the diagnosis of lung SCC. This study aimed to evaluate the use of p40 immunohistochemistry in diagnosis of non-small cell lung carcinoma and its potential to replace current p63 antibody as the best immunohistochemical squamous marker. ***Methods***: Seventy formalin-fixed paraffin-embedded cases previously diagnosed primary lung SCC (n=35) and lung adenocarcinoma (n=35) from January 2008 to December 2016 were retrieved from Department of Pathology, Universiti Kebangsaan Malaysia. We compared the results of tumour cells immunoreactivity for p40 and p63 antibodies in lung SCC and lung adenocarcinoma. ***Results***: The p40 was positive in 29 cases of previously diagnosed lung SCC (82.8%) and two cases of lung adenocarcinoma (5.7%). The p63 was positive in 31 lung SCC (88.6%) and 22 of lung adenocarcinoma (62.9%). The reactivity for both p40 and p63 in lung SCC was strong and diffuse whereas the reactivity of both antibodies in lung adenocarcinoma is variable. ***Conclusions***: We found that the expression of p40 is equivalent to p63 in lung SCC, but p40 is an excellent marker in distinguishing lung SCC from adenocarcinoma. We suggest that p40 is considered for routine use and replace p63 as lung SCC marker.

PP008. A comparison of Imiquimod-induced psoriatic lesions in male and female mouse models

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Introduction: Psoriasis is a chronic inflammatory skin disease that results in localised or extensive development of erythematous scaly plaques, affecting 0.09% to 11.43% of people worldwide. The disease is characterised by marked epidermal hyperplasia, parakeratosis and prominent dermal capillaries. Imiquimod (IMQ), a potent topical immune activator, has been widely used to induce psoriatic lesions in mouse models, mimicking human psoriatic lesions at morphological, immunological and even genetic levels. Effects of IMQ on male mice are known, however, studies on female mice are limited. Aim: To assess and compare the clinical and histological changes of IMQ-induced psoriatic lesions in male and female mice. ***Methods***: IMQ was applied topically to shaved backs of six male and six female 8-to-12 week old BALB/c mice for six days. The severity of the psoriatic lesions were scored every two days, using elements of the Psoriasis Area Severity Index (PASI) including erythema, thickness and scaling followed by histological examination. The mice were sacrificed and the skin were excised, fixed in formalin, embedded in paraffin and stained with Haematoxylin & Eosin. ***Results***: The male and female mice showed no difference in PASI scores after IMQ induction. The histological changes observed include hyperkeratosis, acanthosis, mild neutrophilic infiltration of the epidermis, increased vascularity of the tip of the dermal papillae and thinning of the suprapapillary epidermis. ***Conclusion***: Both male and female mice developed similar psoriatic lesions following IMQ application thus both may be used for the psoriasis mouse model.

PP009. The Bethesda System for reporting thyroid cytopathology: a retrospective study from a single Asian institute

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Introduction: Bethesda system for reporting thyroid cytopathology (BSRTC) was introduced to standardize reports and patients management. Few studies from western countries showed a good diagnostic relationship between BSRTC and the final histopathological (HP) result. However, limited studies done in Asian population. ***Methods***: A retrospective study involving 594 patients who underwent fine needle aspiration cytology (FNAC) of thyroid at Hospital Putrajaya, from 2002-2017. The FNAC results categorized according to BSRTC and compared with HP result after surgical excision. ***Results***: A total of 594 patients with thyroid nodule underwent FNAC at our center (505 female and 89 male) with the median age and thyroid nodule size of 41 years and 30 mm respectively. FNAC results categorized according to Bethesda criteria: 89 (15 %) non-diagnostic/unsatisfactory, 352 (59 %) benign, 122 (21 %) atypia of unknown significant / follicular lesion of undetermined significance (AUS/FLUS), 9 (2 %) follicular neoplasm / suspicious for follicular neoplasm (FN/SFN), 7 (1 %) suspicious for malignancy (SM) and 18 (3 %) malignant. 309 patients subsequently underwent surgical excision and the malignancy rate for each BSRTC category based on final HP report is as follows: non-diagnostic or unsatisfactory (17%), benign (10%), AUS/FLUS (27%), FN/SFN (63%), SM (83%) and malignant (100%). ***Conclusion***: Our study showed higher malignancy rate for all categories in comparison to the value quoted by current BSRTC. Ultrasound-guided FNAC may improve the diagnostic accuracy, especially in non-diagnostic/ unsatisfactory and follicular lesion /atypia of undetermined significance groups. Utilisation of recommended nomenclatures and appropriate comments by pathologists will aid in patients' management.

PP010. Diagnostic accuracy of intraoperative frozen section in central nervous system lesions: a hospital based study

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Introduction: Intraoperative frozen section (FS) is an important tool in management of neoplastic and non-neoplastic central nervous system (CNS) lesions. Role of histopathologist in interpreting FS of CNS lesion is to assist the neurosurgeon in making the accurate judgment regarding nature of the lesion and determining the tissue adequacy. Aim of this study was to evaluate the degree of agreement between results of FS and paraffin sections (PS); and to highlight the possible causes of error in discrepancy between FS and PS. ***Methods***: This was a retrospective study of 85 cases of FS. H&E stained sections of both FS and PS of all cases were reviewed with their histopathological reports. FS results were compared with their PS results. Possible causes of errors were reviewed and recorded in false positive and false negative cases. ***Results***: Of 85 cases, 76 (89.4%), 2 (2.4%) and 7 (8.2%) showed no discrepancy, minor discrepancy and discrepancy respectively. Sensitivity and specificity of FS were 90.1% and 85.7% respectively. Positive predictive value was 97.0% and negative predictive value was 63.1%. False positive rate was 14.2% and false negative rate was 36.8%. Overall accuracy of FS was 89.4%. ***Conclusion***: Our results showed high accuracy and specificity of FS. Therefore FS is still a useful effective tool for neurosurgeon although there are some challenges for histopathologists in reporting FS. The commonest discrepancy was seen between reactive gliosis and low grade glioma. Over-diagnosis or under-diagnosis of FS can be reduced by closed cooperation among pathologist, neurosurgeon and radiologist.

PP011. A 3 years review of 3048 appendicectomy specimens: histopathological correlation

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Introduction: Acute appendicitis is a common diagnosis in surgical units. It accounts for a large number of emergency surgeries. A retrospective review examined pathological diagnoses of appendectomy specimens over 3 years in Pahang. ***Methods***: This study is a retrospective analysis of 3048 appendicectomies between June 2014 and June 2017. Pathological reports were analysed for the following parameters: age-related incidence of acute appendicitis, perforation rate, rate of negative appendicectomy and incidence of other pathologies encountered. ***Results***: Of the 3048 appendicectomy specimens, acute appendicitis was seen in 1859 patients (63.3%), which were in the second decade (31.09% of cases of acute appendicitis).

The perforation rate was 30.4% and was significantly higher in patients aged 50 years or more (P < 0.001). The negative appendicectomy rate was 5.9%, and was significantly higher in female patients (P < 0.001) and in the 11-30 year age group (P < 0.001). Other pathologies include neuroendocrine tumour (0.1%), adenocarcinoma (0.2%), and mucinous neoplasm (0.1%). ***Conclusion***: The findings correlated well with other studies in which negative pathological diagnoses of appendicitis tend to occur in women and younger age group. It signified the essential to evaluate the diagnosis of acute appendicitis in clinical practice especially in younger age group and female population. Neoplasms of appendix is managed differently, hence intra-operative diagnosis may still need confirmatory histological diagnosis.

PP012. CD56 expression in benign and malignant thyroid lesions

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Introduction: Thyroid cancer is the most common endocrine malignancy. Diagnostic dilemma arises when an encapsulated nodule with a follicular growth pattern exhibits clear nuclei with grooves making it difficult to distinguish a follicular adenoma (FA) from encapsulated follicular variant papillary thyroid carcinoma (PTC). The aim of this study is to evaluate the diagnostic utility of an immunohistochemical marker, CD56 to distinguish between benign and malignant thyroid lesions. ***Methods***: This is a case control, descriptive study using archival paraffin-embedded tissue blocks of benign and malignant thyroid lesions from January 2010 to December 2015, diagnosed in UKMMC. We studied CD56 expression in 54 benign and 54 malignant thyroid lesions. ***Results***: CD56 was expressed in 52 of benign and 24 of malignant lesions. The malignant cases were, 31 PTC, 11 follicular carcinomas(FC), 7 medullary thyroid carcinomas(MC), 1 poorly differentiated carcinoma(PD) and 4 anaplastic carcinomas(AP). CD56 was not expressed in 28/31(90.3%) PTCs, 1/11(9.1%) FCs, 1/4(25%) APs, while all MCs and the PD were positive. The benign group included 29 nodular hyperplasias (NH), 10 lymphocytic thyroiditis, 14 FA and 1 hyalinising trabecular adenoma. CD56 was expressed in all the benign cases except one FA and one NH. Thirteen of the 14 FAs were CD56 positive. These were statistically significant with p=0.000. ***Conclusion***: Our results suggested that CD56 is a potentially good immunohistochemical diagnostic marker for differentiating follicular variant PTC from FA in equivocal cases, however, may not be a useful marker to distinguish FA from FC.

PP013. Medico-legal case post mortem: five years experience in Forensic Unit Hospital USM

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Introduction: Medico-legal autopsy is performed to investigate the identity, cause of death, time of death, and circumstances of death. It is only performed when ordered by the police. In our hospital, there is prominent increased number of medico-legal cases recorded in our register book in past 5 years. We would like to identify the exact cause that contributed to this phenomena in order to help in to reduce its number. ***Methods***: Data were collected from case in year 2012 to year 2016. Medico-legal cases recorded were classified into 7 categories which were motor vehicle accident (MVA), sudden death, suicide/poisoning, homicide, drowning, burn and fall from height. ***Results***: In 2012, there were 87 medico-legal cases recorded. The major contributed cause was MVA with 62 cases (71.3%). Followed by sudden death mainly caused by acute coronary syndrome with the percentage of 17.2%. The number of cases showed significant increase in year 2013 with 184 cases in that year. In the following years until 2016, the total number of medico-legal case shows fluctuation trend with severe head and physical injuries due to MVA as the major cause of death in each year. ***Conclusion***: Throughout five years from 2012 to 2016, mostly medico legal cases were caused by the MVA and involving youth. Road traffic safety awareness should be emphasis to the society as well as strict acts should be implemented in order to decrease the risk of road accidents.

PP014. An immunohistochemical study of Endocan expression in placenta in patients with hypertension in pregnancy

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Introduction: Endocan is a dermatan sulphate proteoglycan produced by endothelial cells specific molecule-1 and has been proposed as a possible biomarker and predictor for vascular endothelial related pathology. Vascular endothelial dysfunction and injury play an important role in the pathogenesis of preeclampsia and intrauterine growth retardation. Women with severe preeclampsia have elevated serum endocan level suggest that endocan may play a role in pathophysiology of trophoblastic injury. The aims of our study were to determine and compare endocan expression in placenta of normotensive and hypertensive women and to correlate endocan expression with maternal and fetal outcomes. ***Methods***: Endocan expression was determined using the scoring system similar to the Allred scoring system for oestrogen receptor in breast cancer. The expression was determined in foetal and maternal endothelial cells, cytotrophoblasts, syncytiotrophoblasts and decidual cells. The score of proportion of positive cells and staining intensity were then added to obtain total scores of 0 to 8. A score of 0-2 were regarded as negative while 3-8 as positive. ***Results***: The difference in endocan expression was significant in foetal endothelial cells, maternal endothelial cells and decidual cells. Endocan expression was significantly correlated with the development of maternal pre-eclampsia and HELLP syndrome, fetal low birth weight and prematurity. ***Conclusion***: Our study showed a direct association between endocan expressions in placentae of hypertensive subjects than normotensive subjects. It was correlated with some poor maternal and fetal outcomes. These suggest endocan may play an important role in the pathogenesis of complications associated with hypertension in pregnancy.

PP015. A 14-years experience diagnosing chondrosarcoma in a tertiary centre

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Introduction: Chondrosarcoma is a second most common bone tumour, that occurs between third and sixth decade of life. It usually affects the long bone, however other site can also involved. There are also a few histopathological subtypes of the tumour. The aim of the study is to analyse the incidence of chondrosarcoma reported by Department of Pathology, Hospital Universiti Sains Malaysia (USM), Kelantan. ***Methods***: This is a retrospective analysis of all chondrosarcoma cases reported in Hospital Universiti Sains Malaysia. The records were retrieved from the Pathos and LIS database of the Department of Pathology, between the years 2000-2014. The clinical history include gender, age, site of lesion and histopathological types were included in the analysis. ***Results***: A total of 49 cases were identified. The gender distribution was 28 males and 21 females. The mean age was 43 years old, with peaks at 20-29 and 40-49 age groups. The commonest site is the long bone i.e. femur (20.4%) followed by iliac and humerus (14.3% each). The histopathological types include undifferentiated (6.1%), Grade I (34.7%), Grade II (36.7%), Grade III (4.1%), mesenchymal (10.2%) and dedifferentiated (8.2%). ***Conclusion***: The incidence of chondrosarcoma cases in Hospital USM are similar to those reported in the literature. A further study is recommended to understand the disease outcome following treatments.

PP016. Inadequacy rate of endometrial biopsies – an audit of the assessment criteria

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Introduction: An increasing use of pipelle endometrial sampling leads to significantly less tissue received for evaluation and potentially higher inadequacy rate. There is no universally accepted guideline to assess sample adequacy. This audit aims to i) assess inadequacy rate of endometrial biopsies, and ii) identify the criteria of inadequacy used by pathologists in our institution. ***Methods***: 262 consecutive endometrial biopsy samples from March to September 2015 were included. Cases reported as inadequate were identified; the histopathology reports and slides were reviewed to identify reasons for inadequacy. Clinical information was extracted from the request forms. Findings were tabulated and analysed. ***Results***: 262 samples were included (Pipelle=205, curettage=31, biopsy NOS=26). 96 cases (36.6%) were reported as inadequate

using various terminologies (insufficient/inconclusive/unsatisfactory for interpretation). 81 of these were pipelle biopsies (84.4%). Reasons for inadequacy were: No endometrium present (n=37), fragmented/dissociated endometrial glands from stroma (n=42), scanty tissue (n=15), and lower uterine sampling (n=2). Of the cases where endometrium was present (n=59), pertinent clinical information were provided for some cases: menopausal status (n=33), ultrasound findings (n=26), and medication history (n=4). ***Conclusion***: In our institution, the major reasons for inadequate endometrial biopsies are absent/scanty endometrial tissue and fragmented/dissociated endometrial glands from stroma. Having an agreed set of criteria to assess adequacy, at least within an institution, will help minimize inter-observer variation. Reasons for inadequacy should be specified in the reports to allow clinical correlation and judgement.

PP017. Utility of Cytokeratin 19 in differentiating malignant from benign thyroid lesions

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Introduction: The definitive diagnoses of thyroid lesions can be challenging, especially when morphological features are equivocal. Many immunohistochemical markers have been introduced as diagnostic adjuncts. This study evaluated the utility of Cytokeratin19 (CK19), in differentiating malignant from benign thyroid diseases. ***Methods***: We collected formalin-fixed paraffin-embedded tissues of 65 benign and 54 malignant thyroid lesions previously diagnosed in our institute between January 2009 and December 2015. The benign cases included 39 nodular hyperplasias, 14 follicular adenomas, nine lymphocytic thyroiditis, two benign thyroid cysts and one hyalinising trabecular adenoma. The malignant cases included 32 papillary thyroid carcinomas (PTC), 11 follicular carcinomas, six medullary carcinomas, four anaplastic carcinomas and one undifferentiated carcinoma. All cases were stained with CK19, evaluated under light microscopy, scored based on their intensity and proportion of staining and graded as negative, weakly positive, moderately positive or strongly positive. ***Results***: Strong positivity correlated with malignancy while negative staining correlated with benignity ($p<0.001$). Moderate to strong positivity were seen in 67% of malignant lesions. In contrast, only 6% of all benign conditions showed moderate to strong positivity while the rest were either negative (63%) or weakly positive (31%). Among all the cases that stained strongly, 95% were malignant while among those negatively stained, 80% were benign. When only PTC was compared with benign lesions, 93% of those staining strongly were PTC, while 95% of those negatively stained were benign. ***Conclusion***: This study demonstrates the usefulness of CK-19 as a potentially powerful diagnostic adjunct in differentiating malignant from benign thyroid lesions.

PP018. Prevalence of epidermal growth factor receptor mutations in lung adenocarcinoma in HRPZII

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Introduction: Lung cancer is the most common cause of cancer death worldwide, and is the third commonest cancer in Malaysia. Recent studies showed the frequency of adenocarcinoma is increasing compared to the other subtypes. This study is to evaluate the prevalence of EGFR mutations among patients diagnosed with lung adenocarcinoma in HRPZII. EGFR-mutant lung adenocarcinoma has shown good response toward tyrosine kinase inhibitor therapy (TKI). ***Methods***: Data of lung adenocarcinoma diagnosed based on either histology or cytology specimens with confirmatory EGFR mutations analysis result from a private laboratory in Selangor were selected. These data were retrieved from the archived of Laboratory Information System of HRPZII from January 2014 to December 2016. ***Results***: Total of 114 cases showed 59% were female. The majority were Malay (93%); with 6% Chinese and 1% Siamese. Most patients were diagnosed at the age of 60 and above. EGFR mutations were detected in 46.4% of cases, predominantly at exon 19 (75.4%) followed by exon 21 (20.8%). Single gene mutation was detected in 98.1% of patient, with only one (1.9%) had two gene mutations, and none had three genes mutation. ***Conclusion***: The majority of patients are Malays, with slight female predominance and peak age at 51 to 60 years. EGFR mutations were detected in 46.4% of patients with the commonest mutation at exon 19 (75.4%). Due to high mutation rates, all cases of lung adenocarcinoma should be subjected for EGFR mutational analysis to ensure that TKI can be given to suitable patients.

PP020. Getting younger and younger - endometrial carcinoma and hyperplasia in Hospital Universiti Sains Malaysia; an 11 year experience

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Introduction: Endometrial carcinoma is typically a disease of post menopausal women. The occurrences of endometrial carcinomas in younger patients are uncommon. Endometrial carcinoma in women less than 40 pose challenge in fertility preservation especially in nulliparous women. ***Methods***: This is a retrospective analysis of all endometrial carcinoma and endometrial hyperplasia archived in the Hospital Universiti Sains Malaysia Record Office and Pathology Laboratory Information System. The period of study was over an eleven year period; from January 2007 to February 2017. The clinical history, age and body mass index were noted. The specific histological diagnoses were obtained and mapped against the age at presentation of the respective lesions. ***Results***: A total of 192 cases of endometrial carcinoma and 90 cases of endometrial hyperplasia were recorded during the period. The presenting symptoms in women less than 40 years were infertility, while in the older women was post-menopausal bleeding. Out of these, 26/192 (13.6%) of all endometrial carcinoma diagnosed in women less than 40 years of which 2/192 (1.04%) were under 30 years old. There is a slight increase in cases of endometrial carcinoma in patients younger than 40 years old over the years. Of those women who had endometrial hyperplasia, 31/90 (34.4%) were under 40 and of these 4/90 (4.44%) were diagnosed to have endometrial hyperplasia with atypia; a known precursor of endometrial carcinoma. ***Conclusion***: We observed a higher prevalence of endometrial carcinoma less than 40 years old in our population compared with global prevalence.

PP021. The trend of non-medico legal case in Hospital USM

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Introduction: A medical certificate of cause of death (MCCD) is a document written by a professional whose medical opinion has important value. Non-medico-legal case refers to the medical diagnosis from doctors that certify the possible cause of death to the deceased patient. This study was carried out in order to determine the most common cause of death for non-medico legal case in Hospital USM and it trends for past five years. ***Methods***: The data from 2011 to 2016 were gathered from registration book. The non-medico legal cases were classified into several categories which are sepsis, cancer, cardiovascular disease (CVD), cerebral vascular accident (CVA), pneumonia, prematurity and others. ***Results***: The trend for non-medico legal cases from 2011 until 2016 was recorded. From year 2011 to 2015, an increasing trend was observed that 1000 death cases in 2011, followed by 1011, 1034, 1042 and 1156 cases in the subsequent years. However, the number of non-medico legal cases was slightly decreased to 1114 cases in year 2016. The major cause of death observed for non-medico legal case throughout five years was sepsis. ***Conclusion***: Throughout the year from 2011 until 2016, there were about 6357 non-medico legal cases recorded at the Forensic Unit, Hospital USM which showed the highest number of death case in year 2015. The major cause of death was sepsis, which reflects there is a need to control it by awareness of strict hygiene, proposed isolated infectious ward and awareness amongst the health care workers.

PP022. Immunohistochemistry testing. Clone does matter

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Introduction: In anatomic pathology, immunohistochemistry (IHC) serves as a diagnostic, prognostic, and predictive method when appropriate antibodies are used. For a meaningful result, antibodies have to be specific, selective and reproducible. IHC performance may be affected by numbers of pre-analytical, analytical, and post-analytical factors such as time to fixation, inadequate fixation period, differences in fixative used, and tissue processing. Antibody clone and dilution, antigen retrieval, detection system, and interpretation of results using different cut off points are also important variables that determine IHC interpretation. p16 is a cyclin-dependent kinase-4 inhibitor that acts as a tumour suppressor gene. p16 IHC stains both

nuclei and cytoplasm. There is increased expression of p16 in both high-grade cervical intra-epithelial neoplasia and in low-grade neoplasia associated with high-risk HPV. There is also immunoreactivity in both cervical glandular intra-epithelial neoplasia and cervical adenocarcinoma, however non-neoplastic cervical epithelium should not show any immunoreactivity. ***Methods***: During optimization of p16 clone 1 for the evaluation of cervical epithelial lesions, there were some difficulties in achieving an optimized p16 stain. Positive staining was seen in both neoplastic and non-neoplastic cervical mucosa. ***Results***: The staining protocol was adjusted to various pH, duration of incubation etc without success. Subsequent IHC staining using p16 clone 2 revealed specific staining on target tissue component. ***Conclusion***: This presentation highlights clone related matters in the use of p16 and emphasise some tips in antibody selection extracted from relevant published articles.

PP023. Spectrum of extranodal lymphoma in Hospital Universiti Sains Malaysia

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Introduction: Lymphoma is a neoplasm of lymphoreticular system and can arise in lymph nodes or extranodal sites such as tonsils, bone and central nervous system. The aim is to enlist the common sites of extranodal involvement in each histological type and compare our results with the existing reports in the literature. ***Methods***: This retrospective study was conducted at Pathology Department of Universiti Sains Malaysia, Kubang Kerian, Kelantan. 125 cases of lymphoma were retrieved from the LIS database over a period of 4 years, from 2013 to 2017. ***Results***: Out of 125 cases of lymphoma, 100 (80%) were Non-Hodgkin Lymphoma (NHL) and 25 (20%) were Hodgkin lymphoma (HL). 65 (52%) patients were males followed by 60 (48%) females. A large number of 73 (58%) lymphomas were from extranodal sites, in which NHL appeared to be more frequent 69 (95%) as compared to HL which only 4(5%). Diffuse large B cell lymphoma (DLBCL) is the most common histological subtype 49(67%). Head and neck is the commonest anatomical site involvement followed by soft tissue, bone, mediastinum, gastrointestinal tract, central nervous system, peritoneum, testis, liver, lung, breast, ovary and skin. ***Conclusion***: A broad spectrum of extranodal organs are involved in various subtype of lymphoma. The frequency of extranodal lymphoma in Hospital USM showed similarities to the previous nationwide studies.

PP024. Primary gastrointestinal stromal tumour of the prostate: a case series from Hospital Sultanah Bahiyah

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Introduction: Gastrointestinal stromal tumour (GIST) is the most common mesenchymal tumour affecting the gastrointestinal system, especially in the stomach and small intestine. The prostate is a very rare site. We report 3 cases of primary GIST of the prostate in Hospital Sultanah Bahiyah from 2016-2017. ***Clinical case***: Three patients with ages ranging from 49 to 88 years old. Two were Malay and one was Chinese in ethnicity. All three men presented with obstructive urinary symptoms. Clinical examinations revealed prostatomegaly. CT scan suggested prostatic malignancy. However, serum Prostate Specific Antigen levels for all three patients were not markedly elevated. Transrectal ultrasound guided biopsies were done for all of three, but only one underwent pelvic exenteration. Out of the three patients, one has improved symptoms; one has post-operative wound infection, while one patient was lost to follow up. ***Pathological findings***: Two of the prostatic core biopsies showed spindle cells arranged in fascicles. They display elongated and blunt-ended nuclei. There was mild nuclear atypia noted in one of the case. However, the mitosis in both cases were rare. In the case of pelvic exenteration, there was a huge prostatic mass, which was more than 10cm, locally invading urinary bladder and prostatic urethra. The histomorphology of the prostatic core biopsy and tumour from pelvic exenteration, both showed features of GIST with high risk. All of the three cases show positivity towards CD117, DOG-1, Caldesmon and CD34 immunostains. ***Conclusion***: Primary prostate GIST is an extremely rare entity. However, rectal GISTs should always be excluded.

PP025. Nodular hidradenoma of the anterior chest wall

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Introduction: Nodular hidradenoma is an uncommon benign skin adnexal tumour which may be mistaken for breast cancer when presenting as a nodule on the chest wall. ***Clinical case***: A 45-year-old lady, had an invasive lobular carcinoma of the left breast which was removed by mastectomy 4 years ago, followed by adjuvant chemotherapy and radiotherapy. She is currently on Tamoxifen. She presented with an asymptomatic lump of 6 months on the left chest wall. Physical examination revealed a fixed 1cm lump projecting above the skin located 4cm from the previous mastectomy scar. CT scan showed a lobulated subcutaneous enhancing lesion measuring 1.2x1.0x1.0cm on the left anterior chest wall. The lump was locally excised with a provisional diagnosis of recurrent breast cancer. ***Pathological findings***: Grossly, there was a solitary well-defined lobulated intradermal nodule with a white cut surface measuring 1.5x 1.3x1.0cm. Microscopically, well-circumscribed solid lobules of neoplastic epithelial cells were present in the dermis. Slit-like ductal structures were occasionally seen. There were 2 distinct populations of neoplastic cells; epithelioid cells with eosinophilic cytoplasm and polygonal cells with clear cytoplasm. Focal squamous differentiation was present. These cells were immunohistochemically negative for oestrogen and progesterone receptors. A diagnosis of nodular hidradenoma was rendered. ***Conclusion***: Nodular hidradenoma should be included as a differential diagnosis of well circumscribed superficial lumps on the anterior chest wall. Complete excision is curative as the tumour rarely recurs. Awareness by both pathologists and clinicians will avoid unnecessary treatment.

PP026. Bilateral lymphangiomatous polyps of the palatine tonsil: a case report

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Introduction: Tonsillar lymphangiomatous polyps (LAP) are rare benign hamartomatous lesions and can be misdiagnosed as malignant neoplasm. All cases in the literature were described as unilateral tonsillar diseases except for one paediatric case, which had bilateral tonsillar involvement. This case was successfully treated surgically via tonsillectomy. ***Clinical case***: A 12-year-old girl presented with snoring and mouth breathing. Oropharyngeal examination revealed bilateral polypoidal appearance with intact mucosa and mildly erythematous palatoglossal arches. Bilateral tonsillectomy was successfully done and patient was discharged home with no more complaint of snoring and recovered well. ***Pathological findings***: Bilateral tonsillectomy specimen showed multiple papillomatous nodules at the surface of the tonsils measuring 3x3x3mm to 10x5x3mm. Histologically, multiple pedunculated lymphoid polyps covered by stratified squamous epithelium. Its stroma composed of loose fibrous tissue with numerous proliferations of the dilated lymphatic vascular channels (CD31 positive) within it. These lymphatic channels were stuffed with lymphocytes (CD3 positive, CD20 negative). ***Conclusion***: Histopathological evaluation must be performed to establish its benign nature as LAP which can be cured by complete surgical excision. To date, there has been no incidence of recurrence or malignant transformation reported in the literature.

PP027. Spindle epithelial tumour with thymus-like differentiation (SETTLE): a case report

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Introduction: Spindle epithelial tumour with thymus-like differentiation (SETTLE) is a rare thyroid cancer of thymic origin. It is an indolent tumour with potential for metastasis late in its course. ***Clinical case***: A 30-year-old lady presented with gradual increased of painless anterior neck swelling for 2 years. She was euthyroid and asymptomatic. USG neck in November 2016 revealed a large heterogenous hypoechoic lesion occupying the left thyroid lobe. ***Pathological findings***: Subsequent FNAC shows spindle cell tumour. A USG guided biopsy in April 2017 shows similar morphology of highly cellular spindle cells with mild pleomorphism with differential diagnosis of spindle cell tumour with thymus like differentiation and synovial sarcoma. In June 2017 total thyroidectomy was performed. Left thyroid was grossly enlarged and multilobulated with tumour occupy the whole lobe. Tumour exhibited highly cellular tumour with biphasic pattern with predominant of spindle cells component and minor glandular component. The spindle cells show mild pleomorphism and mitosis was

low. Immunohistochemical study showed the tumour cells were positive for CK, CK19, Vimentin, and SMA. ***Conclusion***: We described a case of SETTLE that composed of predominant of spindle cells with very focal glandular component. A differential diagnosis of SETTLE should be considered in FNA or biopsy of thyroid with spindle cells morphology especially in a young adult. Surgical resection with clear margin is the mainstay of treatment and previous reported cases showed good response toward radiotherapy and chemotherapy in unresectable or metastasis.

PP028. A rare case of non-neutropaenic typhlitis in immunocompetent patient – case report

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Introduction: Typhlitis is necrotizing inflammation of the caecum manifested by febrile right lower quadrant abdominal pain. All cases in literature have been described in immunocompromised such patients with neutropenia, haematological or solid malignancies, and following immunosuppressive therapy. We believe this case represents an example of typhlitis in non-immunocompromised patient, among the first such case reported. ***Clinical case***: We would like to highlight a case of a 49-year-old Malay lady, with unremarkable clinical background. She initially presented with sudden onset of progressively worsening right lower abdominal pain associated with high grade fever and tachycardia. Abdominal examinations revealed a palpable mass and localised tenderness in the right iliac fossa. Blood investigations showed leucocytosis without any significant neutropenia. Ultrasound showed thickening of surrounding mesenteric fat with an irregular tip appendicolith suggested a diagnosis of perforated appendix. Intraoperatively, revealed an inflammed pre-ileal appendix and perforated caecum 3cm from the base of the appendix. Her post-operative recovery was uneventful. ***Pathological findings***: Gross examinations of the specimen showed an acutely inflammed appendix with a suspicious area of perforation noted at the caecum measuring 10mm with surrounding ischaemic areas covered with slough and grossly oedematous. Histopathologically, there is acute appendicitis with acute perforated caecitis or otherwise known as typhlitis. ***Conclusion***: Typhlitis may present in immunocompetent patients and should be considered in the differential diagnosis of patients exhibiting febrile right lower quadrant abdominal distress. Early and appropriate diagnosis allows management at an early stage and prevents complications and mortality.

PP029. Mucinous cystic carcinoma of the breast after collagen injection

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Introduction: Silicone and collagen are used as injectable materials for breast augmentation all over the world especially in the Asian countries. Since these methods have shown to cause detrimental effects over time, it is important to know how to manage these patients. We discuss one such complication here. ***Clinical Case***: A 55-year-old patient presented with breast swelling 10 years after collagen injection. Clinically suspected to be granulomatous reaction, fine needle aspiration was inconclusive. Mammogram showed features that were difficult to interpret. MRI showed abnormal findings indicating malignancy. The lesion was excised. ***Pathological findings***: Gross examination of the excised left breast lesion revealed multiple, unoriented, fragments of breast tissue that looked like multiple thick indurated fibrotic cyst wall with attached adherent mucin. Sections taken from the mucinous area of the cyst wall showed extensive mucinous pools, suspended within well to moderately differentiated malignant ductal cells were seen dispersed at random. Individual neoplastic cells, closely packed together exhibiting hyperchromatic or vesicular nuclei with occasional prominent nucleoli were seen throughout the mucinous cystic lesion. The wall of which appeared fibrotic and hyalinized in nature. Surrounding this mucinous cystic carcinoma (grade II), granulomatous reaction (collagen granuloma) was observed. Modified Bloom and Richardson grading of the tumor was 5/9 (Glandular grade 2/3, nuclear grade 2/3 and mitotic activity 1/3). ***Conclusion***: Awareness of potential complications of injectable materials for breast augmentation is essential for the management.

PP030. Warthin tumour subtype 2 (poor stroma): a diagnostic dilemma in frozen section

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Introduction: Warthin tumour commonly occurs in male with age of 40 years old and associated with smoking. Clinical presentation of painful swelling and earache are common. There are four subtypes recognised by Seifert and colleagues. The highly distinctive morphology subtype 1 (classic) possesses no diagnostic problems. However, the other subtypes may give a diagnostic challenge especially in frozen section. ***Clinical case***: We report such a tumour, found in a 66-year-old Chinese gentleman, who presented with a painless progressive left parotid swelling for 3 years duration. Computed tomography neck showed features suggestive of malignant left parotid tumour. In view of clinically benign presentation, intra-operatively a frozen section was requested after a superficial parotidectomy was performed. ***Pathological findings***: We received a frozen section specimen harbouring predominantly oncocytic cells type. Our diagnosis was benign oncocytic neoplasm. The microscopic examination of formalin-fixed resected specimen revealed warthin tumour subtype 2 (poor stroma). The tumour was composed of more than 80% of epithelial component and only minimal lymphoid element. The clue for the diagnosis relied on the presence of bilayered oncocytic epithelium. ***Conclusion***: The classic warthin tumour is easily recognized. However, the other subtypes possess a diagnostic challenge especially in frozen section. Subtype 2, is easily misdiagnosed as oncocytic neoplasm. Subtype 3 which is predominantly lymphoid element might be mistaken as reactive lymph nodes. Reactive atypia of squamous epithelium in subtype 4 may mimic squamous component in mucoepidermoid carcinoma. The histology subtypes of Warthin tumour need to be considered in frozen section to prevent misdiagnosis.

PP031. Histiocytic sarcoma in a HIV infected patient: a case report

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Introduction: Histiocytic sarcoma (HS) is an extremely rare (<1%) malignant neoplasm showing morphologic and immunophenotypic evidence of histiocytic differentiation. ***Clinical case***: A 21-year-old male with human immunodeficiency virus (HIV) on antiretroviral treatment (ART), presented with two weeks of lethargy and constitutional symptoms. Physical examination revealed hepatosplenomegaly and generalized lymphadenopathy, with the largest measuring 1x1cm at the left cervical area. He had anaemia with Hb 6.6g/dL with full blood picture suggestive of iron deficiency anaemia or haemolysis. Cervical lymph node excision biopsy was done. He required regular blood transfusion since then and refused chemotherapy. He passed away after one month of diagnosis. ***Pathological findings***: Histopathological examination showed lymph node completely replaced by neoplastic histiocytic cells arranged in nodular pattern with incomplete thin fibro-collagenous septa. The neoplastic cells were monomorphic having small round to oval vesicular nuclei with occasional cleaved nuclear membrane, small nucleoli and abundant granular eosinophilic cytoplasm with distinct cytoplasmic margin. These cells were expressing diffuse CD45, CD4, CD68, S100 positivity. CK, CD1a, Langerin, CD20, CD3 and CD15 were negative. The proliferative rate is low (<5%). ***Conclusion***: Diagnosis of HS are based on immunohistochemistry such as histiocytic markers including CD68. The aetiology of HS is poorly understood and no relationship with HIV has been established. It has been reported that the mean survival is < 12 months. Combined chemotherapy such as CHOP regime can be used in treating HS. Histiocytic sarcoma is an aggressive and rare hematolymphoid neoplasia associated with poor prognosis and survival.

PP032. Cutaneous involvement of multiple myeloma

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Introduction: Cutaneous multiple myeloma (MM) is a rare neoplasm that can be primary or secondary in origin. The secondary type can be classified as specific or nonspecific. The specific type is rare and known as secondary cutaneous plasmacytoma. ***Clinical case***: We report a case of a 58-year-old Malay man who had prior history of plasma cell tumour of the lung and MM. Trephine biopsy revealed presence of single large cluster of plasma cells expressing CD138 with lambda light chain restriction. Flow cytometry of the marrow showed 0.3% aberrant plasma cells. He received 8 cycles of

chemotherapy followed by autologous stem cell transplant (ASCT) and achieved a complete remission. Five months later, he developed multiple erythematous skin nodules. ***Pathological findings***: Skin biopsy revealed diffuse neoplastic cells infiltrate in reticular dermis with sparing of the upper papillary dermis and epidermis. The monotonous neoplastic cells have different degree of cytologic atypia. Occasional cells showed distinctive plasma cell features. Plasma cell lineage was confirmed with CD138. They were immunoreactive to Kappa. Lambda stain was inconclusive. Ki-67 was greater than 90%. They were non-immunoreactive to CD45, CD3, CD20 and CKAE1/AE3. The findings were consistent with a cutaneous involvement of MM. ***Conclusion***: Our case illustrated that MM may present with nonspecific dermatological manifestations. It usually occurs in late stages of MM as a reflection of increased tumour burden. As cutaneous involvement in MM is very uncommon, histopathologic and immunohistochemical studies are valuable adjuncts to confirm the neoplastic plasma cells and their monotypic expression of immunoglobulin light chain.

PP033. Primary supraglottic malignant melanoma – an extremely rare entity

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Introduction: Majority cases of malignant melanomas involve skin. Though mucosal melanomas are relatively rare, they purse aggressive clinical course and favour worse prognosis. Primary malignant melanoma of the larynx is extremely rare with its most common site is at the piriform fossa. ***Clinical case***: We report a case of 71-years-old woman presented with dysphagia and choking sensation for two weeks without any clinical evidence of other cutaneous malignant melanocytic lesions. She underwent flexible laryngoscope which revealed right side solid pedunculated mass likely to arise from piriform fossa and moves with respiration. ***Pathological findings***: Microscopically, the mass shows malignant epithelioid, polygonal, spindled and plasmacytoid cells with occasional cherry red nucleoli arranged in sheets and demonstrated strong diffuse positivity for S100 stain but focal positivity for HMB45 stain. They were negative for melan A, pancytokeratin, CD45, chromogranin A, synaptophysin, CD56, myogenin, desmin, GFAP, CD68, CD21 and CD34 stains. The Ki-67 labelling index is about 40%. Based on the clinical and histological findings, a diagnosis of primary malignant melanoma was made. ***Conclusion***: Primary laryngeal malignant melanoma is extremely rare with limited case reported in the literature. Knowing that melanocytes can also be found in normal laryngeal mucosa, malignant melanoma should not be the forgotten as differential diagnosis. Cases of S100, HMB45 and Melan A negative malignant melanomas have also been reported. Distinguishing primary and secondary lesion can be difficult, but clinical and radiological data can be additional help. When diagnosing primary mucosal melanoma in rare sites, possibility of metastatic lesion from cutaneous melanoma should be excluded.

PP034. Ovarian serous borderline tumour with surface involvement and implants

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Introduction: Ovarian serous borderline tumour (SBT) or atypical proliferative serous tumour (APST) is non invasive tumour which shows greater epithelial proliferation and cellular atypia. Approximately one third of SBTs is associated with peritoneal implants. ***Clinical case***: A 21-year-old primigravida, was diagnosed with ovarian cyst at 8 weeks of pregnancy. CA125 level was 2383.3U/mL. Ultrasound showed a complex cyst with presence of septation and solid area. Laparotomy showed an ovarian tumour with associated tumour deposits at its surface, Pouch of Douglas, omentum and peritoneal lining. Right salphingo-oopherectomy and omentectomy were performed. ***Pathological findings***: The 17 cm cystic ovarian tumour showed two locules that contain yellowish watery fluid. Both inner wall and ovarian surface showed exophytic papillae formation. Histopathological findings showed a proliferative serous ovarian tumour that characterized by hierarchical, branching papillae that branch from large to smaller papillae and detached tuft of epithelial cells. No stroma invasion was detected. A diagnosis of SBT/APST with ovarian surface involvement was made. Omentum showed non invasive implants. ***Conclusion***: The patient was allowed to continue her pregnancy and no chemotherapy was given. It has been 3 months since her post spontaneous vaginal delivery. SBT/APST might show non invasive ovarian surface involvement. It is important to recognize this unusual presentation and not to over-diagnosed as tumour perforation or low grade serous carcinoma (LGSC). A recent long-term follow-up study shows that women with stage 1 SBT/APST had an overall survival rate similar to that of the general population.

PP035. Metastatic renal carcinoma to the vagina, a rare incidence

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Introduction: Metastasis carcinoma to the vagina can be by direct extension, implantation from primary pelvic tumour or through lymphovascular invasion. Commonly spread are from primary cervical carcinoma, but metastasis from urinary tract tumour is rare. ***Clinical case***: We report a case of a 76-year-old Malay lady, presented with 3 days of sudden onset of post menopausal heavy vaginal bleeding. Speculum examination revealed unremarkable cervix with a fleshy friable tissue detached from the anterior vaginal wall mixed with necrotic material. This tissue was sent for histopathological assessment. CT scan abdomen and pelvis revealed a large heterogeneously enhancing mass, with a central stellate non-enhancing scar arising from the right renal parenchyma. ***Pathological findings***: Gross specimen composed of one fragment of brownish tissue partly covered with blood clot measuring 57x45x15mm. Microscopically showed malignant tumour cells arranged in nests, separated by delicate fibrovascular septae. The tumour cells were moderately pleomorphic round to oval nuclei with prominent nucleoli; some with multiple and macronucleoli, with clear cytoplasm. Mitoses and necrosis were present. Immunohistochemistry and special stains, showed positivity for glycogen, CD10, EMA, focal positivity for CKAE1/CKAE3 and vimentin. They were negative for CK7, CK20, S100 and mucicarmine. ***Conclusion***: The frequency of urogenital tract organ involvement by haematogenous metastasis in renal cell carcinoma is about 8%, as compare to other organ such as lung (75%), liver and bone (40%), and soft tissue (34%). For this case, haematogenous spread is the most probable route for metastasis to the vaginal wall.

PP036. Metastatic adenoid cystic carcinoma to the thyroid: a case report

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Introduction: Metastatic adenoid cystic carcinoma (ACC) to the thyroid is a rare occurrence. The primary site include salivary glands, mammary glands, cervix, sinuses, skin, larynx and trachea. ACC has a locally invasive behaviour and usually spread via direct extension, submucosal or perineural invasion. Distant metastases may occur with the lungs being the most common site. ACC rarely involves the thyroid, therefore it may mimic thyroid carcinoma and pose a diagnostic challenge. ***Clinical case***: A 55-year-old lady presented with one year history of hyperthyroidism and was started on anti-thyroid medications. Clinically, there was a right thyroid swelling which was confirmed radiologically with neck ultrasound. Computed tomography of the neck reported as an ill-defined lesion in the right paratracheal region with possible exophytic lesion arising from isthmus or right thyroid lobe with extension to right paratracheal region. A fine needle aspiration was done prior to total thyroidectomy. ***Pathological findings***: Fine needle aspiration was suggestive of follicular neoplasm. Microscopic examination of the thyroid shows adenoid cystic carcinoma infiltrating the thyroid parenchyma in multifoci predominantly at the isthmus, with involvement of the surgical margin. ***Conclusion***: Metastatic ACC to the thyroid is rare and its primary site has to be determined. In this case, patient presented with thyroid related symptoms with associated mass and it could be mistaken for a thyroid carcinoma clinically. Thus, correlating the clinical, radiological and histopathological findings are essential in determining the primary tumour of a rare metastatic site.

PP037. Cases of hemangiopericytoma of the meninges in HSAJB

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Introduction: Haemangiopericytoma (HPC) was described by Stout & Murray in 1942. HPC is grouped with solitary fibrous tumour as they share similar genomic inversion, fusion NAB2 and STAT6 gene. SFT is WHO Grade I tumour, HPC grades are II and III based on histological findings. SFT/HPC comprises 2-4% of meningeal tumour affecting adults in 6th decade of life. ***Clinical cases***: 3 patients, aged between 27-42 years old were treated in HSAJB between January to April 2017. All 3 patients presented with neurological deficits due to the tumour itself, or compression of the adjacent structure. Radiological investigations for all patients revealed heterogenous intradural, extramedullary mass. Enhancing dural tail noted surrounding to the lesion. The tumour also has compressed the underlying brain tissue/spinal cord. The clinical and

radiological findings indicated meningioma. ***Pathological findings***: All the specimens received in fragments. The tumours were vascularized and composed of cellular round to plump ovoid neoplastic cells arranged in sheets and haphazard and patternless architecture. Haemangiopericytomatous blood vessels accompanied perivascular hyalinized collagenous deposits were observed. The neoplastic cells were positive for Vimentin (diffuse), CD34 (focal), EMA, and Bcl2. Negative for Desmin, Smooth Muscle Actin, GFAP and neuroendocrine markers. ***Conclusion***: HPC is a rare tumour and most of the time overshadowed by meningioma due to its similarity in clinical presentation and radiological findings. Histological, the HPC, however, has distinct morphological features. Immunohistochemical stains may be helpful to differentiate between meningioma and HPC. For management, surgical intervention is a curative for meningioma, HPC needs surgical treatment with adjuvant radiotherapy.

PP038. Parotid lymphoepithelial carcinoma: a case report

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Introduction: The lymphoepithelial carcinoma is a rare salivary gland tumour, mostly encountered in parotid gland. This disease is more common in female and the average age of 45 years old. Epstein-Barr virus (EBV) is one of the common aetiology that correlate with this disease. We present a case of unsuspected lymphoepithelial carcinoma. ***Clinical case***: A 41-year-old Malay lady with underlying allergic rhinitis presented with complaint of painless left parotid swelling for one year. The swelling is gradually increasing in size. It was a symptomatics and the swelling became painful. Radiological investigation with contrast enhancement revealed an infiltrative tumour involving superficial and deep lobes of the left parotid gland. ***Pathological findings***: Fine needle aspiration cytology done twice showed only few atypical epithelial cells with reactive lymphoid aggregates. A left total parotidectomy was done and a tumour mass measuring 3x2cm in maximum dimension, involving superficial and deep lobe with surrounding lymphadenopathy was removed. Microscopic examination of the tumour showed sheets and clusters of polygonal cells with irregular infiltrative margins associated with prominent non neoplastic lymphoplasmacytic infiltrates, high mitotic index, presence of necrosis. Association with EBV was established. ***Conclusion***: The workup of any parotid mass should begin with an FNA, however, correlation between clinical and radiological findings are important in the management in cases of inconclusive aspiration result. Lymphoepithelial carcinoma with high mitotic count and associated with lymphoid cells of mainly T phenotype is highly associated with Epstein-Barr virus. Total surgical excision with radical neck dissection may increase the survival rate in this type of patient.

PP039. Gastrointestinal stromal tumour, with chorodoid features, rare feature in a common tumour

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Introduction: Gastrointestinal stromal tumour (GIST) is the commonest mesenchymal tumour of the gut though its incidence is rare. These tumours originate from interstitial cells of Cajal. Rarely, GIST can have chordoid or myxoid differentiation, mimicking chordomas and extraskeletal myxoid chondrosarcoma. However, the prognostic significance of chordoid appearance is unknown. Given the rarity of this lesion, we report a case of GIST with chordoid differentiation. ***Clinical case***: A 59-year-old Malay gentleman, who has recurrent stroke, hypertension, dyslipidaemia, and history of upper gastrointestinal bleeding at prepyloric region. He presented with lower abdominal distension with tenderness. CT abdomen revealed an abdominal mass possibly from the small bowel. A laparotomy was done, showing perforated small bowel with multiple mesentery and peritoneal nodules. He passed away on the third day post surgery. ***Pathological findings***: Grossly, a huge lobulated tumour arising from wall of small bowel involving the mesentry, measuring 142x100x152 mm. The tumour has greyish whitish, solid surfaces with cystic spaces and myxoid change. There are also multiple nodules noted at the mesentry. Histologically the tumour was composed of moderately pleomorphic spindle cells arranged in vague fascicles and whorls with foci of nuclear pallisading. The myxoid area showed chordoid differentiation with a bluish myxoid background. These tumour cells were positive for CD117 and DOG-1 immunostains. ***Conclusion***: GIST with chordoid differentiation is very rare with only two cases reported in the English literature. As seen in this patient; chordoid differentiation in GISTs may be a marker of a poor outcome.

PP040. Metastatic malignant phyllodes tumour of the breast

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Introduction: Phyllodes tumours (PTs) are rare biphasic neoplasms consisting of overgrowth of glands by stromal components. Distant metastases have been found in malignant PTs and rarely in borderline PTs. ***Clinical case***: We report a case of metastatic PTs of mediastinum. Patient is a 53 year old lady who presented with community acquired pneumonia. Nine years ago she had left mastectomy for borderline phyllodes tumour. Imaging revealed large heterogenous mass in the right upper lobe. PET scan showed evidence of FDG avid primary malignancy in the right lung. Patient underwent right upper lobectomy. ***Pathological findings***: The lesion is a solid cystic tumour measuring 290x260x85mm. Cut sections showed lobulated mass with variegated surface showing necrosis, haemorrhage and cystic areas. Microscopically, there were predominant lobulated myxoid areas composed of ovoid and spindle cells as well as highly cellular areas showing pushing borders. There are scarce benign epithelial component, some appear to lined cleft-like spaces covering the neoplastic spindle cells in myxoid stroma. Mitoses were 21/10hpf. No malignant heterologous elements seen. The diagnosis was metastatic PT. The cells were immunoreactive for Vimentin, SMA and CD99. They were non-immunoreactive for CD34, BCL-2, Desmin, S100, ALK-1 and CD56. The diagnosis was metastatic PT. ***Conclusion***: Metastatic PTs are rare and difficult to diagnose especially when there is absence of epithelial component. Hence, it is important to consider metastatic PTs in patients with a previous history of PTs as there are no specific diagnostic biomarkers to support the diagnosis.

PP041. Florid tuberculosis of the female genital tract

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Introduction: Tuberculosis remains a significant health problem in Asian countries. However, infection of the female genital tract is rare; accounting for 1-2% of cases. It requires high index of suspicion and thus most of the cases remain under diagnosed. ***Clinical case***: A 59-year-old Malay lady, presented with increasing abdominal distension within two months. It was associated with high grade fever and intermittent vaginal bleeding. Examinations revealed massive ascites; thus abdominal mass could not be appreciated. Examinations of other systems were unremarkable. Trans-abdominal ultrasound revealed a large left ovarian mass with irregular margins and CTTAP suggestive of an aggressive left ovarian mass with peritoneal metastasis. On laparotomy, numerous small tumor deposits were seen over the peritoneal cavity, uterus and fallopian tubes. Total hysterectomy, bilateral salphingo oophorectomy and omentectomy were performed. ***Pathological findings***: Gross examinations of the specimen showed multiple pin point nodules involving the whole uterus and adnexal structures including the omentum. Histopathologically, the entire specimen was riddled with epithelioid granulomata. These granulomata were composed of epithelioid cells, multinucleated giant cells with lymphocytes. Granulomas also are seen packing part of the arterial lumen. Acid fast bacilli were identified using Ziehl Neelson stain. A diagnosis of florid tuberculosis was made. ***Conclusion***: Florid tuberculosis of the genital tract has not been reported. This is the first case in which florid granulomata of tuberculosis seen in the uterus, both fallopian tubes, ovaries, omentum as well as on the vessel wall. Abdominal mode of spread in this case is haematogenous spread.

PP042. Papillary type of testicular embryonal carcinoma: a case report

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Introduction: Embryonal carcinoma (EC) is a malignant germ cell tumour composed of undifferentiated cells of epithelial appearance with a variety of growth pattern. EC has no specific radiological features. Microscopic morphology of papillary pattern give differential diagnosis of yolk sac tumour and extension of adenocarcinoma of the epididymis, hence the problem of diagnose emerges. ***Clinical case***: A 19-year-old man presented with scrotal enlargement. The right scrotum enlarged rapidly since 2 months prior to admission to the hospital. Right orchidectomy was performed. ***Pathological findings***: Gross examination revealed 14x9x6cm white, friable mass. Histopathology features showed papillary and micropapillary patterns which extended to vas deferens. Some tumour cells radially lining fibrovascular cores, some showed nuclear crowding,

overlapping, with marked pleomorphism. Tumor cells consisted of large cells with dense amphophilic cytoplasm and poorly defined cytoplasmic membranes, with large, pleomorphic nuclei, that has vesicular appearance, with single or multiple macronucleoli, some were hyperchromatic. Mitotic bodies were frequent. Immunohistochemical evaluation revealed positivity of CD 30 and cytokeratin, with negative expression of EMA. Negative histochemical staining of PAS. ***Conclusion***: The clinical presentation, gross examination, together with the histopathology pattern, immuno-and-histochemical evaluations addressed the diagnosis toward papillary pattern of testicular embryonal carcinoma.

PP043. Insular thyroid carcinoma: a rare case diagnosed by thyroid biopsy

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Introduction: Insular thyroid carcinoma (ITC) is a distinctive form of poorly differentiated and rare thyroid carcinoma with aggressive clinical behaviour. It is characterised by well-defined solid nests/trabecular/insular growth pattern of tumour cells with absence of nuclear features of papillary thyroid carcinoma. There is at least one of the following: convoluted nuclei; mitotic activity of three or more per 10 hpf or tumour necrosis. ***Clinical case***: We report a 56-year-old gentleman who presented with painless, progressively enlarging left sided neck swelling for 3 months duration. Physical examination revealed left supraclavicular swelling that was pulsatile and non-tender. Computed Tomography (CT) scan of the neck and thorax showed a left thyroid malignancy with bone and lung metastases. ***Pathological findings***: Through-cut biopsy showed three strips of tumour tissue comprising tumour cells arranged in insular pattern. The tumour cells displayed hyperchromatic round small nuclei with mild nuclear pleomorphism, inconspicuous nucleoli and scanty cytoplasm. Occassional mitotic figures are seen. There was no features of papillary thyroid carcinoma or neuroendocrine tumour seen. Immunohistochemically, the tumour cells were diffusely reactive for TTF-1 and thyroglobulin, but non-reactive for calcitonin, synaptophysin and chromogranin A. A diagnosis of insular thyroid carcinoma was made. ***Conclusion***: Due to its rarity compared to other thyroid carcinomas, ITC is still a challenge for pathologists. Immunohistochemistry is helpful in differentiating ITC from other malignant thyroid lesions including medullary carcinoma and well differentiated thyroid carcinomas with high grade features.

PP044. Uterine lipoleiomyoma: a case report

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Introduction: Uterine lipoleiomyoma is a rare variant of uterine leiomyoma with a benign clinical course. This tumour is composed of smooth muscle component admixed with varying degree of mature adipose tissue. Although several hypotheses were made, the pathogenesis of this tumour remains unknown. ***Clinical case***: A 66 year old post menopausal lady presented with incidental findings of uterine fibroids during a routine health check up. She was otherwise asymptomatic. On clinical examination the uterus was 16 weeks in size. Computed Topography (CT) scan of the abdomen and pelvis showed a few lesions in the uterus with one exhibiting a well defined heterogeneous lesion with fat attenuation and internal septation. Intraoperative findings confirmed the presence of uterine fibroids. ***Pathological findings***: The uterus showed three subserosal fibroids and two intramural fibroids. One of the intramural fibroid measured 5.7 cm in widest dimension and was composed of predominantly soft yellowish and homogenous fatty tissue surrounded focally by a rim of whitish firm tissue. No necrosis or haemorrhage noted. Histological examination of this lesion showed a mixture of mature adipose tissue and benign smooth muscle component. No mitotic activity was observed. ***Conclusion***: Uterine lipoleiomyoma shows similar clinical presentation to the more common leiomyoma. More often they are only diagnosed during histopathological examination. Further studies are needed to determine the histogenesis of this tumour.

PP045. Cutaneous perivascular epithelioid cell tumours (PEComa), a review on a rare neoplasm of the skin

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Introduction: Perivascular epithelioid cell tumours (PEComa) are uncommon mesenchymal tumours composed of perivascular epithelioid cells which exhibit both smooth muscle cell and melanocytic differentiation. PEComas most often arise in the retroperitoneum, abdominopelvic region, uterus and gastrointestinal tract, but very rarely in the skin. PEComa are more common in females. ***Clinical case***: A 39-year-old Malay lady, with no known medical illness. Presented with swelling at the left medial malleolus for 3 years. The lesion was not increasing in size. Prior to the swelling she had sustained injury of the left ankle from motor vehicle accident. Examination of the left ankle revealed a non-tender swelling measuring 5x3 cm, with normal skin colour. Left ankle radiograph show soft tissue lesion at medial malleolus with normal bone. ***Pathological findings***: Grossly a greyish nodule, measuring 25x25x15mm and has yellowish greyish surface. Histologically, this nodule showed partly encapsulated and circumscribed lesion, composed of large pleomorphic, polyhedral cells arranged in sheets and nested architecture, having large irregular hyperchromatic nuclei, some with prominent nucleoli. Multinucleation giant bizzare nuclei were also seen. The cytoplasm was abundant and eosinophilic. Some appeared vacuolated and foamy. Mitosis was frequent. Scattered hyalinized dilated vessels with few thrombi were also present. Immunohistochemistry showed the tumour cells were positive for Vimentin, HMB45 (patchy), CKAE1+3 (focal), SMA, Desmin, CD10 and negative for S100, CD68, EMA, p63, CK5/6, CD31 (highlighted vessels). ***Conclusion***: Cutaneous PEComa are rare and most are benign, but if not cautious can be easily mistaken for malignancies, especially melanoma.

PP046. A case report of alpha fetoprotein producing biphasic pulmonary blastoma

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Introduction: Pulmonary blastoma is a rare primary lung malignancy. Histologically it recapitulates developing lung in early foetal life with biphasic mesenchymal and epithelial components. Immunohistochemistry is crucial for the diagnosis of pulmonary blastoma. This case report highlighted an alpha fetoprotein (AFP) producing biphasic pulmonary blastoma. ***Clinical case***: A 26-year-old Chinese male smoker presented with productive cough for 2 months with left sided pleuritic chest pain and worsening breathlessness. He was otherwise well without family history of malignancy. Clinical examination and chest radiograph showed a massive left pleural effusion. Diagnostic and therapeutic pleural thoracocentesis drained haemorrhagic fluid. Pleural fluid analysis showed exudative picture based on Light's Criteria. Tuberculosis workups were negative. A contrast enhanced computed tomography of thorax showed a mass occupying almost the entire left upper lobe. Ultrasound guided left lung pleural biopsy were done. His serum AFP level was 28642.4 μg/ml. Further staging radiological imaging showed no evidence of distant metastases. ***Pathological findings***: The biopsy showed fragments of tumour tissue consisting mesenchymal and epithelial components. The mesenchymal component showed oval-to-spindle shaped cells with hyperchromatic nuclei expressing vimentin and smooth muscle actin. The epithelial component showed tubular structures lined by single and multiple layers of hyperchromatic cells expressing CK7, focal CK20 and AFP. The appearances were consistent with biphasic pulmonary blastoma. ***Conclusion***: AFP producing biphasic pulmonary blastoma is a rare lung tumour with poor prognosis. A pre-operative diagnosis of pulmonary blastoma is often difficult to obtain. The diagnosis is usually confirmed after tumour excision.

PP047. Discordant lymphoma: B cell lymphomas involving the duodenum and mediastinum

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Introduction: Discordant lymphomas are rare entities characterized by the simultaneous presence of two or more distinct types of lymphomas at different anatomic sites. The incidence of this condition is believed to be very low. The different lymphomas may present concurrently or as sequential disease. ***Clinical case***: We present a 26-year-old Chinese lady complaining of melena with weight loss and dysphagia. Endoscopy revealed a bleeding large duodenal (D2) tumour. A concurrent mediastinal mass was found on CT scan with no associated lymphadenopathy or hepatosplenomegaly. Both

the lesions were biopsied. ***Pathological findings***: Microscopic of the duodenal biopsy showed a diffuse infiltrate of large atypical B lymphoid cells, which were positive for CD20, BCL6 and CD10; negative for BCL2, Tdt, MUM1 and T cell markers. Ki67 showed a proliferative index of about 60%. This was interpreted as a diffuse large B cell lymphoma-germinal centre type. The mediastinal biopsy showed medium to large atypical B lymphoid cells in a nodular fashion and the cells were positive for CD20, CD30, PAX5, MUM1 and BCL6; negative for BCL2, CD10, CD23, CD3 and CD15. Ki67 showed a proliferative index of 80%. The mediastinal biopsy was interpreted as a primary mediastinal large B-cell lymphoma. ***Conclusion***: The histological and immunohistochemistry findings of both the duodenal and mediastinal tumours with lack of general systemic involvement suggested that these two lymphomas were not the same entity and hence was classified as a discordant lymphoma. There is a need to identify these cases as it allows for proper staging and treatment of the condition.

PP048. Histopathological criteria of inflammatory bowel diseases and related dysplasia among Omani patients

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Introduction: The inflammatory bowel disease (IBD) includes two main related diseases; ulcerative colitis (UC) and Crohn disease (CD). The two entities share common features and differ in risk factors as well as clinicopathological characteristics. Several studies around the world reported different frequencies of IBD and IBD-related dysplasia in different parts of the world. In Oman, there is lack of information about the histopathological characterisation and prevalence of dysplasia among patients presented with colitis. The aim of this study was to identify the prevalence of IBD and IBD-related dysplasia among patients with colitis presented to Sultan Qaboos University. ***Methods***: The study was a retrospective descriptive study performed on the archived endoscopic biopsies obtained from patients presented to Sultan Qaboos University, Muscat, Oman from the start of 2013 till the end of 2015. The H&E slides were re-evaluated carefully. The biopsies with cases with suspected dysplasia were stained for P53 and Ki67 immunohistochemistry. The results were analysed using SPSS software V21. ***Results***: A total of 345 patients were included in the study. The prevalence of IBD among cases presented with colitis was (35.6%, n= 123), most commonly ulcerative colitis (n=116) and only seven cases were diagnosed as Crohn disease. Among cases diagnosed as IBD, only (6.5%, n= 8) showed dysplastic changes. The majority of the dysplastic cases showed significant activity (87.5%). ***Conclusion***: Inflammatory bowel disease constitutes an important presentation among patients presented with colitis in Oman. The rate of dysplasia is less than the average recorded in literature.