

The 6th Annual Scientific Meeting of International Academy of Pathology Malaysian Division (IAPMD): Liver and Pancreas Pathology, was held at Doubletree by Hilton, Melaka on 7th to 8th September 2019. Abstracts of paper (poster) presented are as follow:

P1. A case report of cardiac myxoma presenting as cerebrovascular event

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Introduction: Cardiac myxoma (CM) is the most common benign primary neoplasm of the heart; its aetiology is unknown. It usually occurs in the left atrium. Most cases are sporadic, occurring in middle-aged women. They usually present with mitral stenosis or insufficiency. Embolic phenomenon is occasionally seen. *Case report:* A 53-year-old woman with underlying Diabetes mellitus, hypertension and hyperlipidaemia presented with sudden onset slurring of speech, facial asymmetry and right hemiparesis. She had no chest pain, breathlessness or heart failure. CT brain showed acute left frontal lobe infarct. A trans-oesophageal echocardiogram revealed left atrial mass measuring 7.8cm x 2.1 cm. There was no abnormality of the valves, wall and septum. She underwent a resection of the cardiac mass. The specimen was composed of multiple irregular pieces of firm, brown polypoid tissue measuring 70x40x20 in aggregate with heterogenous glistening surface. Microscopy demonstrated paucicellular myxoid material containing fusiform or stellate cells with elongated, ovoid nuclei. They were arranged in single or multiple layers surrounding vascular channels. Nuclear atypia and mitotic activity were absent. Hemosiderin-laden macrophages and scattered inflammatory cells were noted. Gamna-gandy bodies were absent. *Discussion:* Neurological complications attributed to CM are seen in 20–35% of patients. The production of emboli is ascribed to the overexpression of matrix metalloproteinases. The tumour emboli are related to the mobility and friability of the mass rather than the tumour size. Surgical excision is curative however local recurrences have been reported.

P2. A case series of human intestinal spirochaetosis: Brushing the brush borders

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Introduction: Human intestinal spirochaetosis (IS) is an uncommon infection caused by non-treponemal spirochaetes *Brachyspira aalborgi* or *Brachyspira pilosicoli*. It may affect any part of the colorectum and its diagnosis relies on demonstration of the filamentous spirochaetes on the surface epithelium. *Case Report:* Case 1: A 65-year-old man presented with loss of appetite and passing blood and mucous per rectum (PR). Colonoscopy showed sigmoid colon diverticulitis and rectosigmoid ulceration. Case 2: A 63-year-old man with loss of appetite and 10kg of weight in 2 months. Colonoscopy found a sigmoid colon polyp. Case 3: A 22-year-old woman with PR bleeding for 3 months, loss of appetite and weight. Colonoscopy revealed inflamed ileo-caecal valve. Microscopic examination of all cases demonstrated coating of surface epithelium (in some areas) by an end-on-end attachment of basophilic, 3µm-thick filamentous spirochaetes, forming a false brush border. The organism was positive for PAS and Giemsa; whilst negative for Mucicarmine, providing a reliable discrimination from mucin. In cases 1 and 3, there was associated focal active inflammation, increased lymphoplasmacytic cells and mild architectural distortion. While in case 2, the spirochaetes colonized the surface of a hyperplastic polyp. *Discussion:* IS is more common in HIV-positive men; association with polyps, diverticular and inflammatory bowel diseases have been documented. Patients may be asymptomatic or present with diarrhoea, abdominal pain, or loss of appetite or weight; as in our cases. The false brush border should alert the observer of this entity.

P3. Amniotic fluid embolism, rare but highly catastrophic: A case report

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Introduction: Amniotic fluid embolism (AFE) is a rare, potentially fatal complication of pregnancy and an obstetric emergency. It is extremely difficult to anticipate and hence to prevent despite the precautions taken. It is a diagnosis of exclusion. *Case Report:* A 38-year-old Malay lady, at 39 weeks gestation of her second pregnancy experienced spontaneous onset of contractions. Her pregnancy was complicated by one previous scar, advanced maternal age and anaemia. She had a ventouse assisted delivery following foetal distress. The delivery was further complicated by primary post-partum haemorrhage secondary to intermittent uterine atony. Subsequently, she experienced a hypotensive episode with unrecordable blood pressure and was intubated promptly. Maternal bradycardia and asystole developed and cardiopulmonary resuscitation (CPR) was performed.

The resulting haemorrhage and shock necessitated massive blood transfusion. Unfortunately, she died the following day. Autopsy was not performed but the husband agreed for bedside biopsy of the lung tissue. Histopathologic examination of the lung showed presence of foetal squames within the capillaries in addition to few thrombosed small vessels. *Discussion:* Amniotic fluid embolism is one of the feared and devastating complications of pregnancy. It can neither be foreseen nor prevented. The management is largely supportive and also the mortality of the condition remains high. A reliable diagnosis can often be made upon histological examination. However, it is nonspecific and remains limited and controversial.

P4. Primary cutaneous mucinous carcinoma of the eyelid: A case report

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Introduction: Primary mucinous carcinoma is a rare, mucin-secreting skin adnexal neoplasm. The majority of these tumours arise on the face, with 30% on the eyelid and 43% elsewhere on the head and neck. Diagnostic dilemmas include its deceptively benign look in some cases and also the problem in differentiating it from metastatic mucinous adenocarcinoma of particularly breast and gastrointestinal tract. This tumour is treated by wide local excision. Though this tumour has low metastatic potential, it does have a significant recurrence rate. *Case Report:* We present a case of primary mucinous adenocarcinoma of the eyelid in an 81-year-old Malay gentleman who presented with painless, right upper eyelid swelling for 1 year. On examination, there was a right upper eyelid mass with skin and tarsal involvement until lateral canthus. He underwent excision and upper eyelid reconstruction. Histopathologic examination revealed an infiltrative lesion composed of basaloid islands of tumour cells floating in large pools of mucin separated by fibrous septae. The tumour cells were seen infiltrating the adjacent skeletal muscle and involved margins. The cells were positive for CK7. They are negative for CK20 and CDX2. *Discussion:* Due to its rarity, primary mucinous carcinoma of the eyelid poses diagnostic challenges to clinician and pathologist. It is almost always diagnosed histologically as it resembles other benign skin lesion clinically. A variety of immunohistochemical markers as well as CK7, CK20, CDX2, GCDFP-15 and p63 are utilized to differentiate these tumours from metastases of breast or gastrointestinal malignancies.

P5. Case report of pneumatosis cystoides intestinalis

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Introduction: Pneumatosis cystoides intestinalis is a rare benign disease, characterized by the presence of gas-filled cysts in the intestinal submucosa and subserosa. It has a wide aetiology, such as pyloric stenosis and systemic sclerosis, and is primarily diagnosed via clinical and imaging modalities. *Case Report:* A 48-year-old gentleman with history of gastroduodenal junction stricture presented with abdominal distention. Oesophagogastroduodenoscopy (OGDS) showed distended stomach with a chronic ulcer at the posterior wall of the antrum, with inability to pass the scope beyond pylorus. Clinical impression was gastric outlet obstruction secondary to chronic pyloric ulcer, proceed with distal gastrectomy, resection of jejunum and terminal ileum with omentum. Macroscopically, the resected terminal ileum showed patchy areas of vesicular formations at the serosal surface, which were empty on sectioning. Cut section of the bowel wall also revealed similar empty vesicles. Microscopic examination of the vesicles showed dilated cystic spaces lined by epithelioid macrophages and foreign-body type multinucleated giant cells. No definite lining epithelium was otherwise identified and no evidence of malignancy. The partial gastrectomy specimen showed ectopic pancreatic tissue with hypertrophic pylorus. *Discussion:* Pneumatosis cystoides intestinalis may be rarely encountered by the pathologist as it is not often resected. It may occur anywhere within the gastrointestinal tract but is most common in the small intestine. Clinical presentation is variable, ranging from benign symptoms to life-threatening complications, such as intestinal obstruction as seen in this case.

P6. Catch me if you can: A case of an elusive prostate carcinoma

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Introduction: Sarcomatoid adenocarcinoma is a highly aggressive, rare form of prostate cancer with poor prognosis. It is composed of admixture of epithelial and mesenchymal components, either one of which may predominate. We report a case with prominent sarcomatous component, and discuss relevant histological and immunohistochemical features to achieve satisfactory diagnosis. *Case Report:* A 53 years old gentleman with underlying diabetes mellitus and hypertension, presented with haematuria and obstructive uropathy, initially treated as prostatic abscess. Pre-operative transurethral resection of prostate (TURP) specimen was reported as high grade prostatic sarcoma. Computed tomography (CT) scan of the thorax, abdomen and pelvis showed extensive, locally infiltrative prostatic tumour. He subsequently underwent pelvic exenteration surgery. Macroscopic examination of the pelvic exenteration specimen showed enlarged, distorted and extensively necrotic prostate, and globular

enlarged bladder with tumour infiltration at bladder base. Microscopic examination showed carcinomatous (14.5%, acinar adenocarcinoma, Gleason Patterns 3 and 4) and mesenchymal (up to 30%, poorly differentiated sarcoma with focal osteosarcomatous) components. Neoplastic stromal cells which showed reactivity for vimentin and SMA only, were focally seen in close admixture with malignant glands which were positive for AMACR and PSA. The lymph node showed adenocarcinomatous metastasis. *Discussion:* In literature, histologic type of carcinosarcoma has not been found to correlate with survival and overall this malignancy has poor prognosis.

P7. Eosinophilic liver abscesses mimicking hepatic malignancy

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Introduction: Eosinophilic liver abscesses are commonly discovered incidentally on radiologic examinations resembling metastases in correlation with eosinophilia. Here, we report a case of isolated eosinophilic liver abscesses mimicking malignancy. *Case Report:* 42-year-old male with incidental finding of liver lesion at segment 6/7 liver. Hepatitis screening was negative however full blood count showed eosinophilia. MRI of liver mass was suggestive of malignancy thus right posterior hepatectomy was done. Histopathological examination showed massive expansion of the portal tracts obscured by heavy sheets of eosinophils aggregates spilling into liver parenchyma, distorting the normal architecture. Within the eosinophilic aggregates, varying sized granuloma with central area of necrosis are seen. No evidence of malignancy was identified. *Discussion:* Hypereosinophilic syndrome (HES) is characterized by marked peripheral blood hypereosinophilia with evidence of eosinophil mediated end organ damage. HES causes tissue damage by eosinophilic infiltration and activation thus releasing preformed mediators. In HES, hepatic involvement is common (40-90%) and the radiographic findings of the liver may demonstrate multiple, small, poorly defined, round to oval nodular lesions mimicking metastases especially in patients with prior history of malignancy. This unfortunately may lead to unnecessary surgery. In the end, management of HES is mainly determined by clinical presentation and degree of organ damage, wherein corticosteroid is the first line of management with second-line steroid sparing agents including hydroxyurea and imatinib.

P8. Metastasis invasive thymoma to the brain as posterior fossa mass: A case report

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Introduction: Thymic tumours are rare tumours arising from thymic tissue and account for 20% anterior mediastinal neoplasms in adults. The World Health Organization divided the thymic tumours into thymoma (subtype A, AB, B1, B2, B3) and thymic carcinoma (type C) based on their histological features. *Case Report:* We describe a 59-year-old man presented with headache for 2 years with cerebellar sign on examination. Magnetic resonance (MR) imaging showed two extra-axial lesions at posterior fossa lesions with CT thorax showed an anterior mediastinal mass. Histological examination showed proliferation of polygonal shape neoplastic cells arranged in clusters, lobules and nest. These cells showed strong and diffuse positivity for CKAE1/3, p63 and CK5/6, and focally CD5. Overall features are compatible with thymoma B3. There is sprinkling of lymphocytes with occasional perivascular space and rare mitoses seen. *Discussion:* About 30% of the thymoma are invasive; however, metastasis beyond the thorax are rare, generally to pleural, bones, liver or brain in approximately 7% of cases. Metastasis to distant (extra-thoracic) site designated Stage IV in Masaoka system, which indicates much worse prognosis.

P9. Pulmonary sclerosing pneumocytoma of the lung with spindle stromal cells: A potential pitfall in biopsy specimen

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Introduction: Pulmonary sclerosing pneumocytoma (PSP) is a rare benign neoplasm of pneumocytic origin, seen in middle aged adult with striking female predominance (80%). Patient are usually asymptomatic, with well circumscribed nodule or mass on imaging. *Case Report:* An asymptomatic 55 years old female in which incidental left hilar mass in chest x-ray, and left lingular lung mass suggestive of malignancy detected in CT thorax. The transbronchial biopsy shows dual population of cells with significant amount of solid area consists of spindle cells rather than round stromal cells. The more classical papillary and sclerotic patterns are also seen, focally. The spindle cells are positive for TTF-1 and EMA, and thus preclude the diagnosis of other tumour of mesenchymal origin. Wedge resection of left lingular mass was done and the finding was consistent with the biopsy. *Discussion:* Pulmonary sclerosing pneumocytoma was first described as pulmonary sclerosing haemangioma years ago. However, the origin of the cells from primitive respiratory epithelium was revealed by immunohistochemical studies. Histologically, it is consisting of a dual population of cuboidal surface cells and stromal round cells. Both of the cells type has slightly different histogenetic profiles but all considered to be neoplastic. Diagnosis made based on small biopsy can be challenging, as PSP can be a mimicker for adenocarcinoma. Dense spindle stromal cells changes may further cause a diagnostic confusion of other mesenchymal tumour, including synovial sarcoma, solitary fibrous tumour and inflammatory myofibroblastic tumour.

P10. Secretory breast carcinoma: Expect the unexpectedFongjuen KIEW¹, Peiyeing TEOH¹, Shobana MUKUNDA DEVAN¹, Noranizah WAGINO²¹Department of Pathology, Hospital Selayang, Selangor; ²Department of Pathology, Hospital Pakar Sultanah Fatimah, Muar, Johor.

Introduction: Secretory breast carcinoma is a rare histological subtype of invasive breast cancer, accounting for <0.15% of all breast cancer. It is identified by its distinct histomorphology with a favourable prognosis. **Case Report:** A 22-year-old Malay female presented with 4 months' right breast lump, associated with bloody nipple discharge. A 3 x 3 cm breast lump palpated during physical examination. Ultrasound and mammogram detected a heterogenous mass measuring 3.3 x 1.1 x 3.1 cm. There is no evidence of regional lymphadenopathy or metastatic disease. Biopsy revealed an invasive breast carcinoma. Wide local excision and axillary clearance were performed. Grossly, of the lumpectomy specimen showed a solitary yellow-tan tumour with pushing borders. Microscopically, the tumour is well-circumscribed, multinodular with solid growth pattern and prominent cystic spaces containing dense eosinophilic secretory material and <10% tubular architecture. They exhibit moderate nuclear pleomorphism. Mitotic activity is low. No lymphovascular invasion is detected. The malignant cells are positive for CK7, e-cadherin, EMA and they are triple negative. The secretory material and intracytoplasmic secretion are positive for PAS and PAS diastase resistant. **Discussion:** Secretory breast carcinoma is an indolent and rare breast cancer. The presence of intracellular and extracellular secretory material that stains positive for PAS is a consistent finding. Most tumours stain positive for EMA and S100 and negative for ER, PR and HER2 (ie, triple negative). Some secretory carcinomas demonstrate a basal-like immunoprofile. Recently, the tumour was found to be associated with a distinct ETV6-NTRK3 gene translocation.

P11. Testicular embryonal rhabdomyosarcoma: It's never too latePeiyeing TEOH¹, Fongjuen KIEW¹, Shobana MUKUNDA DEVAN¹, Zahrah TAWIL¹, Rosna YUNUS²¹Department of Pathology, Hospital Selayang, Selangor; ²Department of Pathology, Hospital Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur.

Introduction: Rhabdomyosarcoma is the most common soft tissue sarcoma in children. After head and neck, the genitourinary tract is the second most common site, mostly at the paratesticular region. **Case Report:** A 16-year-old Chinese male presented with the history of painless right testicular swelling for a year. Tumour markers were within normal limits but mildly elevated LDH of 450 u/l. Computed tomography of thorax/ abdomen/ pelvis showed a large heterogenous right testicular mass measuring 197 x 134 x 82 mm, abdominal and pelvic lymphadenopathy and lytic lesions at T2, T5 vertebrae, right sacral alar and left ilium suggestive of bony metastases. He underwent right inguinal orchidectomy. Macroscopically, revealed a testicular tumour measuring 160x105x67 mm, solid tan appearance with myxoid change and necrosis. Microscopically, the tumour was composed of alternating hyper- and hypocellular zones within a loose myxoid stroma. The tumour cells were composed primarily of primitive round to oval hyperchromatic cells with scant cytoplasm. Conspicuous rhabdomyoblastic differentiation was observed. The tumour cells showed patchy immunoreactivity for Vimentin, Desmin, Myogenin and MyoD1. The final diagnosis was embryonal rhabdomyosarcoma. Federation Nationale des Centres de Lutte Contre Le Cancer (FNCLCC) grade 3. **Discussion:** Testicular rhabdomyosarcoma is a rare sarcoma, representing only 7% of rhabdomyosarcoma. Embryonal rhabdomyosarcoma is the predominant histological subtype in 90% of testicular rhabdomyosarcoma. It is a highly aggressive tumour that may present with early metastases. A radical inguinal orchidectomy followed by adjuvant chemotherapy is the recommended treatment.

P12. Multiple umbilical cord strictures: A cause of intrauterine foetal demise

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Introduction: There are multiple types of umbilical cord abnormalities such as short cord, long cord, knots, hyper-coiling, hypo-coiling, single umbilical artery, supernumerary umbilical vessels, cystic and vascular malformations as well as abnormal insertion of cords. Umbilical cord stricture is an uncommon type of umbilical cord abnormalities and has been described to be associated with intrauterine foetal death and a possibility of recurrence. **Case Report:** A 35-year-old woman, para 6+1, delivered a stillborn female foetus at 33 weeks of gestation. At 30 weeks of gestation, she was found to have polyhydramnios with amniotic fluid index of 35.9 (30 weeks) and 42.9 (31 weeks) during her routine antenatal follow up. A detail ultrasound scan of the foetus at 31 weeks of gestation showed no structural anomaly. She was admitted for close foetal heart rate and cardiography monitoring. On day 12 of hospitalisation, there was no foetal heart sound detected and a diagnosis of intrauterine foetal demise was rendered. Postmortem examination showed a macerated foetus weighing 1300 grams with multiple umbilical cord strictures seen at both the foetal end and placental end associated with vascular thrombosis. There was no foetal structural anomaly detected. **Discussion:** Umbilical cord strictures can be associated with intrauterine growth restriction and oligohydramnios. However, polyhydramnios was detected in the present case. The exact aetiology of the mechanism of formation of stricture is still unknown. Umbilical cord stricture is a known cause of intrauterine foetal death yet uncommon. Multiple cord strictures are also possible. Though most of these strictures are located near the foetal end, it can also occur near the placental end.

P13. From prostate biopsy to radical prostatectomy: How well is the correlation? An experience with 41 cases in a tertiary centre

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Introduction: Prostate cancer is the most common malignancy in men and the second cause of cancer-related mortality after lung cancer. In this study, we attempt to determine the correlation of Gleason scoring and group grading of biopsies with the final grade of the tumour observed within the corresponding radical prostatectomy specimen in our centre which is one of the referral centres for urological malignancies. *Materials and Methods:* In this cross-sectional study, we analysed the results of prostate needle biopsies and subsequent prostatectomy of confirmed cases of prostate adenocarcinoma diagnosed at the laboratory of Hospital Selayang in 41 patients, between 2014 and 2018. Preoperative clinical data and the information from biopsy and prostatectomy specimens were collected. Pearson and Spearman correlation coefficient were used to determine the strength of the relationship between different variables collected from the patients' data. *Results:* The Gleason scores for the biopsy correlated well with the final Gleason score obtained from the corresponding prostatectomy specimen. This was also in keeping with the overall group grade as well. The Gleason grades were commonly scored at 7 and the corresponding group grade was scored at 2. The Prostatic Specific Antigen levels also correlated well with the final group grade. *Conclusion:* There is good correlation between the Gleason scores and group grading of needle biopsies and the final scores obtained from corresponding prostatectomy specimens. To further strengthen this correlation, a larger study involving a larger sample size across a larger duration may be required.

P14. Penile paraffinoma: A case report

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Introduction: Penile paraffinoma is an uncommon entity associated with paraffin injection into penis. The injection is usually self-induced or performed by non-medical personnel. Injection of liquid paraffin leads to destructive effect to penile structures and functions. *Case Report:* A 58-year-old man presented with scrotal swelling and erectile dysfunction for a week. There was no history of fever or discharged. It was associated with penile swelling for a year. He had a history of Vaseline injection in the penis 20 years ago. Subsequently he had six penile injections of herbal medicine; the last injection was performed one year ago. On examination, there was a diffuse swelling of penile glans and scrotum measuring 45x40x20mm and 150x35mm respectively. Ultrasound showed numerous tiny sub-centimetre anechoic foci; the largest measuring 0.2 cm. Routine laboratory investigation was normal. The patient underwent excision of penile glans and scrotal flap. Histologically, penile tissue shows diffuse lipid vacuoles embedded within sclerotic stroma. The vacuoles are varying in size; some are cystically dilated and forming pseudocysts. Granulomatous reactions with abundant foreign body giant cells, foamy macrophages and inflammatory cells infiltrate are seen in the background. *Discussion:* Interstitial exogenous oils lead to granulomatous foreign-body reaction inducing a sclerosing lipogranuloma. Paraffin injection induces many untoward reactions e.g. necrosis, ulceration, infection, fistulisation, erectile dysfunction, phimosis and acute urinary retention; as the body lacks the enzymes to metabolize the oils.

P15. Pleomorphic dermal sarcoma: A challenging encounter of a recurrent skin lesion with atypical cells

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Introduction: Pleomorphic dermal sarcoma (PDS) is a rare neoplasm of skin that can be mistaken with atypical dermatofibroma and atypical fibroxanthoma (AFX) in superficial biopsy. Poor margin clearance and recurrence following removal gives a clue to this aggressive tumour. *Case Report:* A 45-year-old man complained of 10 years right nasal alar swelling which had recently increased in size. The lesion was diagnosed as a wart and removed yet it recurred. Clinically, the lesion was 1.5 x 1 cm, smooth, firm, and non-tender. Nasoendoscope displayed healthy nasal mucosa. The biopsy concluded as dermatofibroma with positive margin. The lesion recurred after six months and re-excision was conducted. The recurred lesion resembled mushroom-shaped skin tissue, measured 17mm (diameter) x 10mm (length) with presence of scar. Cut section showed a circumscribed, pale yellow subepidermal lesion, measuring 9 x 7 x 7 mm. Microscopically, both were non-encapsulated dermal tumour composed of spindle to epithelioid tumour cells arranged in haphazard fascicles displaying pleomorphic nuclei with scattered bizarre forms. Atypical mitoses were identified. Skeletal muscle infiltration was observed. The tumours were positive for SMA, desmin, CD10, CD31, CD68 whilst negative for keratins, caldesmon, myogenin, S100, Melan-A. Ki67 activities were less than 5% and 8-10%, respectively. Follow-up at six months showed no evidence of recurrence. *Discussion:* In view of aggressive clinical behaviour and greater pleomorphism with aberrant mitoses encountered, malignancy is a possibility. Expert opinion established a diagnosis of PDS. AFX may represent a precursor of PDS and it is crucial to exclude other atypical spindle cell neoplasms.

P16. The prevalence of diffuse large B-cell lymphoma subgroups according to Hans algorithm

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Introduction: Diffuse large B-cell lymphoma (DLBCL) is the most common high grade, non-Hodgkin lymphoma. It can be classified based on morphology, immunophenotyping and genetic expression profiling. Hans algorithm is widely used method to divide DLBCL into two prognostic subgroups; germinal centre B-cell (GCB) and non-germinal centre B-cell (NGCB) using immunohistochemistry (IHC) panels; CD10, BCL6 and MUM1. This study was conducted to determine the prevalence of DLBCL subgroups in HSB. **Materials and Methods:** A retrospective study conducted which assessed 97 cases of DLBCL diagnosed between January 2014 and December 2018. The selected cases were DLBCL (NOS) excluding site-specific subtypes, transformation from low grade lymphomas, concurrent malignancy or HIV and suboptimum tissue. Patients' demography was retrieved from electronic hospital information system. The haematoxylin-and-eosin stained cell morphology and expression of the IHC panels were examined by three pathologists. **Results and Discussion:** NGCB subgroup of DLBCL predominates by 60.8% (59/97) with the remainder 39.2% (38/97) under GCB subgroup. Patients' demography showed 53.6% presented after age of 60. The majority of DLBCL patients were Malay (86.6%), followed by Chinese (12.4%) and Siamese (1%). About 64% (62/97) patients presented with extranodal diseases. The top-three sites for extranodal diseases were head and neck (32.0%), gastrointestinal (16.5%) and genitourinary tract (7.2%). Centroblastic morphology was the commonest microscopic findings (89.7%), followed by anaplastic (4.1%) and immunoblastic (3.1%). Immunohistochemical study of the GCB subgroup showed CD10 expression in 81.6% (31/38). The remaining 18.4% (7/38) showed only BCL6 expression. While, MUM1-positive NGCB cases were observed in 83.0% (49/59) and concomitant BCL6 expression in 64.4% (38/59). Triple negative cases were observed in 17.0% (10/59). **Conclusion:** NGCB immunophenotypic subgroup was more prevalent in HSB as seen in other Asian population.

P17. Primary cutaneous mucinous carcinoma of eyelid: A case report

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Introduction: Primary mucinous carcinomas of eyelid was first reported by Lenox et al. in 1951. It's an exceptionally rare clinical entity with an incidence of 0.07 cases per million individuals. This tumour originates from the sweat glands and majority of this tumour arises on the face with 30% on the eyelids and 43% elsewhere on the head and neck. It usually affects male in 4th to 5th decade. Though it has low metastatic potentials, the recurrence rate is significantly high with incomplete surgical excision. Primary mucinous carcinoma is almost always diagnosed histologically and immunohistochemistry studies are needed for exclusion from metastatic mucinous carcinoma from breast and colon. **Case Report:** We reported a case of 54-year-old gentleman who has been diagnosed with mucinous carcinoma of left lower eyelid in 2016 and recurred after 3 years and presented again in 2019. He initially presented to a private clinic in 2016 with a lump over left lower eyelid for 20 years. MRI brain and orbit showed a subcutaneous lesion (0.9 x 2.7 x 1.3 cm) with no local extension or involvement of the lacrimal gland. The histological finding from previous and current tumour excision show similar morphology. Immunohistochemistry are positive for CK7, EMA, ER and focally to P63. CK20, CEA and synaptophysin are negative. **Discussion:** Treatment for primary mucinous carcinoma of the skin requires wide local excision with clear margins. It is recognized that distinguishing primary cutaneous adnexal neoplasm from metastatic carcinoma can be difficult and hence organ-specific markers can be used.

P18. A case of cardiac rhabdomyoma with left ventricular outflow obstruction

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Introduction: Although it is the most common paediatric cardiac tumour, cardiac rhabdomyoma is rare in the general population. Diagnosed by echocardiography, surgical intervention is unnecessary unless the patient is haemodynamically compromised, due the tumour's tendency of regressing spontaneously. **Case Report:** We report a case of an infant born at 38 weeks' gestation who was found to have a murmur. The infant was born to a 24-year-old mother with uneventful antenatal history and delivery. Both echocardiogram and cardiac MRI showed a large mass at the left ventricular outflow tract, consistent with rhabdomyoma. Echocardiogram at seven weeks of life showed worsening obstruction of the outflow tract. The mass was excised surgically. Microscopic appearance of the mass shows sheets of spider cells with cytoplasmic extensions, confirming the diagnosis of rhabdomyoma. The patient was well post-excision with no disease recurrence to date. **Discussion:** Cardiac rhabdomyoma is regarded as a hamartomatous growth associated with autosomal dominant tuberous sclerosis complex. Investigations and histological appearance of this tumour will be further discussed.

P19. Primary peritoneal serous carcinoma: A rare case reportMaizatun Atmadini Abdullah¹, Yojenetha Subramaniam²¹Department of Pathology, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Serdang, Selangor; ²Department of Pathology, Hospital Serdang, Selangor.

Introduction: Primary peritoneal serous carcinoma (PPSC) is a very rare epithelial tumour of mullerian origin. It shares similar clinical, histopathological and immunohistochemical features with epithelial ovarian carcinoma (EOC), however their molecular features are distinct. **Case Report:** We reported a 62 years old multiparous woman presenting with painful abdominal mass and ascites for two months. Abdominopelvic computed tomography (CT) scan revealed gross ascites and extensive omental thickening with multiple small peritoneal nodules. The uterus, and both ovaries were atrophic. The lungs were clear. Peritoneal fluid cytology showed atypical cells of undetermined significance. A first cycle of chemotherapy was given followed by total abdominal hysterectomy with bilateral salpingo-oophorectomy, omentectomy and appendicectomy. The uterus and both ovaries were atrophic and both fallopian tubes were unremarkable. Multiple omental nodules and serosal nodules on the bladder and rectal wall were seen. Histologically the omental nodules were composed of small sheets and nests of malignant serous cells displaying pleomorphic and hyperchromatic nuclei, coarse chromatin pattern, occasional prominent nucleoli and ample cytoplasm. No glandular formation was seen. They were positive for CK7, WT1, P53 and PAX8. Twenty-four lymph nodes from bilateral pelvic region sampled show no tumour metastasis. **Discussion:** Primary peritoneal serous carcinoma (PPSC) is an uncommon disease with few cases cited in current literatures. PPSC does not have any ovarian involvement, but its histology is that of serous adenocarcinoma. Immunopositivity for mullerian markers are helpful in supporting the diagnosis of PPSC.

P20. Primary signet ring cell carcinoma of appendix: An extremely rare case reportSiti Norhafiza MA, Fauzah Abd Ghani, Razana Mohd Ali¹Department of Pathology, Hospital Serdang; ²Department of Pathology, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia

Introduction: Appendiceal primary signet ring cell carcinoma (SRCC) is an unusual clinical entity with less than 20 reported cases in literature. It typically affects adults and usually presents clinically with symptoms that are indistinguishable from those of acute appendicitis. SRCC is considered as an aggressive cancer and most patients present with metastases at time of diagnosis. **Case Report:** We report a 19-year-old girl presented with generalized abdominal pain and distention for a week. Both ultrasonographic and computerised tomography (CT) scan showed heterogenous solid-cystic pelvic mass. Intraoperative findings revealed a right ovarian tumour with omental caking and multiple <1cm nodules on sigmoid colon, pouch of Douglas, and abdominal peritoneal wall. Grossly, the right ovarian tumour is lobulated with intact capsule and solid-cystic tan cut surface measuring 160mm in greatest diameter. The appendix is unremarkable grossly, measuring 8mm in largest diameter. Histopathological examination of the appendix showed multiple foci of malignant cells arising from the mucosa. In areas diffuse involvement of the mucosa with scattered malignant infiltration seen throughout all layers of the appendix arranged in singles, small clusters, cribriform pattern and in sheets. Signet ring cells with many tumourlets noted within lymphovascular channels. The ovarian tumour also showed nests and sheets of signet ring cells with lymphovascular invasion. In view of the diffuse mucosal and transmural involvement of the appendix by SRCC, diagnosis of primary appendix carcinoma with metastasis to the right ovary is made. **Discussion:** As SRCC of appendix is rare, and stomach being a more common site, primary from stomach needs to be excluded. Thus, the overall pathology needs to be correlated with the clinical and radiological investigations for correct diagnosis.

P21. Proliferating trichilemmal tumour: A case reportJeyaverasingam J, Toh YF, Chow TK.

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Introduction: Proliferating trichilemmal tumour is an adnexal neoplasm with outer root sheath differentiation. It commonly occurs in the scalp and base of neck in women. Malignant transformation is rare. **Case Report:** A 45-year old lady presented with an occipital mass for 5 years with occasional bloody discharge. The mass was 2 cm in size, painless and mobile. It was not fixed to the underlying skull. Clinically, it was suspected to be a lipoma. The mass was excised. The laboratory received two pieces of greyish white solid cystic, rubbery to firm nodule, focally covered by fibrous tissue. Microscopic examination showed mainly lobular proliferation and prominent infolding of neoplastic epithelial cells. The epithelial cells show peripherally palisaded small basaloid cells differentiating centrally into large keratinocytes with abrupt keratinization lacking a granular cell layer. Mitotic figures were rare. Focal invasion of malignant squamous epithelial cells into neighbouring tissues with margin involvement was observed. **Discussion:** Malignant transformation of proliferating trichilemmal tumour is rare. Its diagnosis is dependent on poor circumscription and invasion into the surrounding tissue. If there is no evidence of regional or distal metastases, the treatment of choice would be wide local excision with clear margins.

P22. Mixed desmoplastic and conventional type melanoma of breast: A unique case with diagnostic dilemmas

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Introduction: Desmoplastic malignant melanoma is a rare variant of spindle cell melanoma, commonly seen in older adults, on sun-exposed areas. *Case Report:* We report a case of a 64-year-old Malay lady presented with bleeding polypoidal breast lesion. No prior radiological examination done. She was subjected to excision of the lesion. Histologically the lesion is composed of two populations of tumour cells with different morphology and arrangement which lead to diagnostic dilemma to the pathologist. These tumour cells show variable positivity to vimentin, S100 and HMB-45 immunohistochemistry stains to reach to the diagnosis of malignant melanoma. *Discussion:* Desmoplastic melanoma itself is a rare variant of cutaneous melanoma, added to the location at the breast which further needs proper study for correct diagnosis and management.

P23. Neurovascular hamartoma: A rare presentation as colonic polyp

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Introduction: Neurovascular hamartoma is a rare entity, a benign and non-neoplastic lesion that consists of aberrant arrangement of non-epithelial tissue normally occurring in the intestine. It mostly involves the submucosa of small bowel and rarely affects the colon. *Case Report:* We report a case of neurovascular hamartoma occurring in large intestine of a 70 years old lady. She was referred from a health clinic to our centre for positive faecal occult blood test. Colonoscopy revealed a small (6 mm) polyp at sigmoid colon, which was then removed. Microscopically, this polypoid lesion was non-encapsulated and formed by a haphazard admixture of multiple large nerve bundles and thick-walled blood vessels within the submucosa. The overlying mucosa was non-dysplastic. *Discussion:* The low number of reported cases may reflect a genuine rarity of the lesion, or it may be due to it being unrecognized and thus, under-reported. It is debatable whether this lesion is truly a distinct hamartomatous lesion, or a result of nonspecific reactive phenomenon. Surgical resection is curative, and there have been no documented recurrences, owing to the non-neoplastic nature of the lesion.

P24. Solid pseudopapillary tumour of pancreas

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Introduction: Solid papillary tumour of Pancreas (SPT) constitutes about 1-2% of all pancreatic neoplasms. It is a tumour of limited malignant potential occurring usually in young women. Microcystic adenoma, non-functioning islet cell tumour, mucinous cystic neoplasm, pancreatoblastoma, and calcified hemorrhagic pseudocyst are some of the differential diagnoses of this lesion. High rate of resectability of this tumour with good prognosis warrants high suspicion and accurate diagnosis of this lesion. *Case Report:* A 37-year-old patient presented with vague abdominal pain. Radiological examination revealed a retroperitoneal mass. Resection of the retroperitoneal mass was done. Specimen consisted of a circumscribed multilobated brownish mass weighing 468 grams and measuring 15 x 12 x 10 cm. Cut surface showed a variegated appearance including multiple cysts measuring 1 to 3 cm in diameter. Microscopic examination showed a cellular encapsulated tumour composed of solid, pseudopapillae and cystic areas. The pseudopapillae were covered by several layers of epithelial cells. The nuclei were ovoid with indistinct nucleoli and few mitoses. Hyaline globules and collections of foamy cells were seen. The thick fibrovascular cores showed prominent mucinous changes. Tumour clear cells were prominent. Extensive areas of haemorrhage and blood clots were seen. *Discussion:* We present a rare and interesting case of solid pseudopapillary tumour of pancreas presenting as a retroperitoneal mass lesion. A high suspicion of this tumour in young female patients, not only presenting with pancreatic mass but also retroperitoneal mass is required for correct diagnosis and management of the lesion.

P25. Rare presentation of myeloid sarcoma in a patient with myelofibrosis

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Introduction: Myeloid sarcoma (MS), also known as chloroma or granulocytic sarcoma, is a rare variant (<1%) of myeloid malignancy. It can present in isolation or frequently reported in 2-8% of patients with acute myeloid leukaemia (AML). It can precede AML in 25% of cases, coincide with AML in 15-35% of cases, or can occur after diagnosis of AML in 50% of cases. Less often, MS also may occur in association with myeloproliferative neoplasm (MPN) or myelodysplastic disorder (MDS). *Case Report:* This is a case of a 48-year-old female who was initially diagnosed with myelofibrosis. Two months later, she

presented with generalised lymphadenopathy, acute epigastric pain and fever. She underwent excision biopsy of the left inguinal lymph node. Later the bone marrow, trephine and immunophenotyping confirmed acute myeloid leukaemia. Histological findings showed total effacement of the lymph node by blast cells exhibiting uniform, round to oval nuclei with finely dispersed chromatin, inconspicuous nucleoli and scanty cytoplasm. The neoplastic cells are immunoreactive to myeloperoxidase, CD117, CD45 and focal CD68 and negative for TdT, CD3, CD5, CD20, CD79a, panCK, CD34 and CD10. She received a conventional AML-based induction regime with daunorubicin and cytarabine. However, on day eleven post-chemotherapy she developed an intracranial bleed and subsequently succumbed to the disease. *Discussion:* Myeloid sarcoma is an uncommon disease and there is no large prospective series reporting the prognosis of this condition. In this case report, the poor prognosis is related to previous diagnosis of myelofibrosis and the involvement of lymph nodes.

P26. Long-standing CD4+/CD8+ Woringer-Kolopp disease: Report of a rare case

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Introduction: Woringer-Kolopp disease is a localized pagetoid reticulosis (PR). It is a very rare variant of mycosis fungoides (MF). *Case Report:* A 44-year-old Malay lady presented with intermittent pruritic erythematous papular lesions over the right heel for about 20 years but did not seek treatment. The lesion gradually increased in size and turned into a verrucoid plaque. Ultimately, it became ulcerated and is associated with foul-smelling pus discharge. On examination, a large, verrucous plaque (16 cm) with ulceration and erosion on the right heel, extending to the lower calf is seen. No other cutaneous lesions are present. Systemic and lymph nodes examination are negative. Skin biopsy cultures and Tuberculous Polymerase Chain Reaction (TB PCR) are negative. Microscopically reveals neoplastic T-cells with cerebriform nuclei, perinuclear halo and nuclear pleomorphism confined to the epidermis. These cells are positive for LCA, CD3, CD4, CD5 and CD8. The proliferative index is high (>80%). Magnetic resonance imaging (MRI) of the right leg shows suspicious regional tendon involvement. Staging computerized tomography (CT) scan shows no disseminated disease. No atypical lymphocytes seen in peripheral blood smear. Infective screenings are negative. *Discussion:* PR is an indolent disease with excellent prognosis as opposed to primary cutaneous aggressive epidermotropic CD8+ T cell lymphoma (PCACTL), its disseminated form. Histopathologically, PR has to be distinguished from conditions which are associated with pagetoid epidermotropic growth and other acral presentations of T-cell lymphomas such as MF palmaris et plantaris (MFPEP), PACTL and Type-D lymphomatoid papulosis (LP-D). Co-expression of CD4 and CD8 in PR is rare but has been described in several literatures. Till date, localized radiation therapy produces the best treatment response.

P27. The utility of MUC4 immunostain to decode the diagnosis of a low grade fibromyxoid sarcoma which presented as an incidental pulmonary mass: A case report

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Introduction: Low grade fibromyxoid sarcoma (LGFMS) is a rare soft tissue tumor that has the predilection to grow in deep soft tissue areas of proximal extremities and trunk. It is rarely described within the thoracic cavity. When LGFMS is found in the lung and pleura, this should prompt the investigation for the possibility of a metastasis. *Case Report:* A previously well and asymptomatic 19-year-old Malay gentleman was incidentally found to have a right lower lobe lung mass in his chest X-ray when medical check was conducted prior to university enrolment. The computed tomography (CT) thorax performed showed presence of a right lower lobe peripheral lung mass measuring 4.6 x 3.0 x 3.9cm. CT guided lung biopsy showed no granuloma or malignancy. The mass was excised and macroscopic examination revealed a well-circumscribed mass with fibromyxoid cut surface measuring 60x40x25mm attached to adjacent lung tissue measuring 40 x 17 x 17 mm. Microscopy shows moderately cellular tumour mass with focal areas of invasion into the adjacent lung tissue. The mass is composed of bland spindle-shaped cells arranged in a storiform to swirling pattern set in a collagenous stroma with alternating myxoid areas. There is no mitosis or necrosis. No evidence of dedifferentiation seen. In areas, entrapped alveolar pneumocytes are seen within the mass. The spindle cells show diffused immunoreactive for MUC4 and focal immunoreactivity for TLE1. *Discussion:* LGFMS is a rare, slow-growing fibroblastic neoplasm with common lung metastases. The diagnosis of LGFMS is also very challenging as it can be mistaken for many benign spindle cell lesions with myxoid stroma. An accurate diagnosis of LGFMS is important due to its significant potential of recurrence and late metastatic spread.

P28. A correlation of E-cadherin expression with the outcomes of prostate cancer among Malaysian populationSiti Farah Sophia Mohd Nasir^{1,2}, Ikmal Hisyam Bakrin¹, Norhafizah Mohtarrudin¹, Rosna Yunus²¹Pathology Department, Faculty of Medicine and Health Sciences, University Putra Malaysia, Selangor; ²Pathology Department, Hospital Kuala Lumpur, Kuala Lumpur.

Introduction: Aberrant expression of E-cadherin has correlation with an advanced disease in prostate cancer patients in Hospital Kuala Lumpur. In this study, the researchers have evaluated the potential of E-cadherin as a prognostic marker in prostate cancer and its correlation with the outcomes of prostate cancer patient. **Materials and Methods:** Paraffin block tissue from 46 prostate cancer patients that underwent prostatectomy which meet the inclusions and exclusions criteria were retrieved from 2008 to 2016. Immunohistochemistry study of E-cadherin was performed. E-cadherin expression was evaluated as weak (score 1+), moderate (score 2+) and strong (score 3+). Statistical analysis was used to determine the correlation of E-cadherin with the outcome of prostate cancer patients which includes biochemical failure, disease free, metastasis and local recurrence. The correlation of E-cadherin expression with currently use traditional clinicopathological parameters (pathological staging, Gleason score, positive tumour margin and perineural invasion) were also subsequently evaluated. **Results and Discussion:** E-cadherin immunostaining results showed membranous E-cadherin expression in prostate cancer cells. There was significant correlation between E-cadherin expression and biochemical failure ($p=0.005$) as well as local recurrence ($p=0.003$). However, there was no significant correlation between E-cadherin expression with disease free ($p=0.864$) and tumour metastasis ($p=0.430$). There was significant correlation observed between E-cadherin expression with pathological staging ($p=0.001$), Gleason score ($p=0.004$) and perineural invasion ($p=0.001$). There was no significant correlation between E-cadherin expression with positive tumour margin ($p=0.320$). **Conclusions:** The results suggest the usefulness of E-cadherin as a prognostic tool in prostate cancer and can be used as an additional marker for the current available traditional clinicopathological parameters. It also has a good value in predicting the outcome of prostate cancer patients, particularly the biochemical failure and local tumour recurrence.

P29. A review of hepatectomies in Hospital Sultanah BahiyahRanjeeta Krishnan, Pavitratha Puspanathan

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Introduction: Hepatic resections are performed for both benign and malignant neoplasia. Malignancies contribute to a large number of hepatectomies done at Hospital Sultanah Bahiyah as it is a tertiary Hepatopancreaticobiliary surgery centre. This study looks at hepatic resection specimens, relating epidemiology and contributing factors. **Materials and Methods:** This is a retrospective hospital-based study looking at hepatic resections performed from July 2017 to December 2017. Forty-four patients underwent hepatic resection for space occupying lesions and traumatic injuries. Various epidemiological factors, predisposing conditions and histopathological findings were studied. **Results and Discussion:** From the 44 patients, there were 24 males and 20 females with the age range of 3-81 years. 42 resections were for neoplastic lesions and 2 for trauma related. 14 out of 42 benign lesions are including cavernous haemangiomas, focal nodular hyperplasia, liver cysts and hepatic adenoma. 28 were for malignant lesions, namely hepatocellular carcinoma (HCC) and metastatic malignancies predominated, followed by cholangiocarcinoma, hepatoblastoma and embryonal sarcoma. Out of the 12 HCC cases, only 2 were positive for Hepatitis B/C and 3 had established cirrhosis. Colorectal primary was the more prevalent (50%) for secondary malignant liver lesions. **Conclusion:** Over the period of 6 months, malignant neoplasms represented the major reason for liver resection. Hepatocellular carcinoma and metastatic malignancies were the commonest, with a predominance of colorectal metastases in our setting. Non-neoplastic lesions like simple liver cysts, focal nodular hyperplasia and established cirrhosis showed female predominance while benign neoplasms like cavernous haemangioma also show similar predominance.

P30. A study of HER2 expression in endometrial carcinoma: A single centre experienceMariani Hashim¹, Nur Maya Sabrina Tizen¹, Nurwardah Alfian¹, Hasmah Hashim², Azmawati Mohammed Nawi³, Suria Hayati Md Pauzi¹¹Departments of Pathology, Hospital Canselor Tuanku Mukhriz, Universiti Kebangsaan Malaysia; ²Departments of Pathology, Hospital Melaka; ³Department of Community Health, Hospital Canselor Tuanku Mukhriz, Universiti Kebangsaan Malaysia.

Introduction: Endometrial carcinoma (EC) is the seventh most common cancer in females in Malaysia, the majority of which are composed of lower grade type I EC. Although lesser prevalent, type II EC which is of higher grade has poorer outcome and prognosis. Human epidermal growth factor receptor 2 (HER2) is one of possible prognostic molecular marker which can be a target for immunotherapy. This study aimed to assess the expression of HER2 in common type of EC in local population and to determine its correlation with the clinicopathological features. **Materials and Methods:** A total of 53 cases of endometrioid type of EC were selected within six-year period comprising of 22 cases of grade 1, 25 cases of grade 2 and 6 cases of grade 3 carcinoma. The selected whole tumour tissue sections were immunostained with HER2 antibody. The scoring was semi-quantitatively analysed based on 2013 American Society of Clinical Oncology (ASCO)/College of American Pathologists (CAPs) guidelines for scoring of HER2 in breast cancer. **Results and Discussion:** All cases regardless of grades of endometrioid carcinoma show

negative expression of HER2 (score 0). All control tissues are working. *Conclusions:* There is no significant HER2 expression in endometrioid carcinoma. However, a follow-up study with larger number of samples from different type of endometrial carcinoma is useful. Testing several tumour tissue blocks to assess possible tumour heterogeneity as well as correlation with HER2 gene amplification status by in-situ-hybridisation are also recommended.

P31. Correlation of molecular profiling with histology growth pattern in biopsy of lung adenocarcinoma

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Introduction: The current classification of lung carcinoma further defines adenocarcinomas into five subtypes based on histological growth patterns. The five growth patterns are characterised by their typical architecture, but also by variable tumour biological behaviour. This study was conducted to examine the correlation between histological growth patterns of lung adenocarcinoma to the molecular test results. *Materials and Methods:* This is a retrospective study. All lung carcinomas that were sent for EGFR molecular testing in 2016 and 2017 (UiTM) and 2018 (Serdang) were included. This study excludes lung carcinoma diagnosed from pleural, lymph node, mediastinal biopsy or resection specimens, non-small cell lung carcinoma (NSCLC)-favour squamous cell carcinoma and cases that no slides could be retrieved for review. The slides then reviewed by two pathologists. A consensus conclusion of the predominant histology growth pattern was obtained; acinar, solid, lepidic, papillary or micropapillary. The histology growth pattern against EGFR results was analysed. *Results and Discussion:* Ninety cases were included with 36% (32/90) showing positive EGFR molecular testing. The frequency of positivity according to histology growth pattern are acinar 59% (16/27), solid 32% (17/53), papillary 25% (1/4) and lepidic 0% (0/6). Predominant histological growth pattern-EGFR result correlation as follows: ACINAR pattern (n=27) showing exon 19 deletion (n=5), exon 21 (L858R) mutation (n=6), double mutation at exon 20 (S768I) and exon 18 (G719X) (n=2), double mutation at exon 20 (S768I) and exon 21 (L858R) (n=1), mutation exon 18 (G719X)(n=1), deletion exon 19 and exon 21 (L858R) mutation (n=1); SOLID pattern (n=53) showing exon 19 deletion (n=12), exon 21 (L858R) mutation (n=3), exon 19 insertion (n=1), exon 20 insertion (n=1); PAPILLARY pattern (n=4) showing exon 21 (L858R) mutation (n=1); lepidic pattern (n=6) none showing positive molecular EGFR testing. *Conclusions:* Solid growth pattern is the most frequent pattern observed in lung biopsy specimen however tumour with predominant acinar pattern show the most frequent positive EGFR molecular testing.

P32. Expression of Ki-67 in invasive breast carcinoma and its correlation with tumour grade, stage group and molecular subtyping

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Introduction: Ki-67 is a proliferative labelling index which may signify the clinical behaviour and serve as prognostic marker in breast cancer. We aimed to evaluate Ki-67 expression in breast cancer and to correlate with tumour grade, stage group and molecular subtyping. *Material and Methods:* A total of 280 invasive breast carcinoma cases from January 2014 to December 2017 were selected. Ki-67 proliferative index was immunohistochemically analysed and compared with clinicopathological variants. *Results and Discussion:* High Ki-67 shows significant association with high tumour grade, stage group and non-luminal molecular subtyping. High Ki-67 shows significant predictor for high tumour grade (Grade 2: aOR 4.183, 95% CI 1.751-9.996 and Grade 3: aOR 26.966, 95%CI 10.044-72.400) and non-luminal molecular subtyping (aOR 4.590, 95%CI 2.328-9.048). There was no significant association found between Ki-67 and lymph node status and lymphovascular invasion. *Conclusion:* Evaluation of Ki-67 expression in breast cancer serves as prognostic indicator that helps to guide in the management of patients.

P33. Expression of tumour carcinoembryonic antigen and its correlation with clinicopathologic parameters in colorectal carcinoma patients in Hospital Serdang

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Introduction: Carcinoembryonic antigen (CEA) is a set of glycoproteins responsible for intercellular adhesion, apoptosis and metastatic potential. It is a tumour-associated antigen for colorectal carcinoma (CRC). While its serum concentration is a well-known prognostic marker for CRC, the prognostic value of tumour CEA expression is controversial. *Materials and Methods:* 86 patients who underwent curative resection for CRC in Hospital Serdang from January 2010 to December 2015 were enrolled

in this study. Immunohistochemical study was conducted using anti-human CEA monoclonal mouse antibody. CEA expressions by tumour tissues were classified based on the staining intensity (weak or strong) and pattern (apical or cytoplasmic). Correlations between CEA expressions with grade, stage, overall survival (OS) and disease-free survival (DFS) of the patients were studied using Spearman's correlation and Kaplan-Meier survival analysis. *Results and Discussions:* The mean age group of the patients was 63.66 years (SD1.366) with the highest proportion of cases were among males (51 cases, 59.3%) and Chinese (41 cases, 47.7%). Most of the cases (75 cases, 87.2%) were moderately differentiated. 56 cases (65.1%) showed strong CEA expression compared to weak CEA expression in 30 cases (34.9%). 50 (58.1%) and 36 (41.9%) of CRC cases had apical and cytoplasmic CEA expression respectively. Tumour CEA expression pattern had weak correlation with grade of CRC at the 0.01 level (rho value -0.325). However, there was no correlation with stage. Tumours with strong staining intensity and apical tumour CEA expression showed longer mean OS and DFS compared to their counterparts, though it was not statistically significant. *Conclusions:* Our results show the prognostic role of tumour CEA expression in CRC remains unclear as there was no definitive correlation between CEA expressions.

P34. Ovarian small cell carcinoma of hypercalcaemic type

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Introduction: Small cell carcinoma of the ovary, hypercalcaemic type (SCCOHT) is an extremely rare and highly aggressive tumour which typically affects young women. The prognosis is poor with more than 65% of patients succumb to their disease within 1 to 2 years of diagnosis. *Case Report:* We report a case of a 41-year-old nulliparous lady who presented with one-month history of abdominal distension. Physical examination revealed gross ascites. The tumour markers were within normal range. Contrast enhanced computerised tomography (CT) examination demonstrated a huge solid enhancing mass arising from left ovary with local infiltration. There are multiple intraabdominal lymphadenopathy with multiple lung nodules suspicious of malignancy with nodal and lung metastasis. Subsequently laparotomy revealed left ovarian tumour with extensive tumour seeding at the peritoneal surface, right ovary and omentum. Histopathological examination showed the tumour was composed of predominantly small cells with large cells component. The malignant cells showed diffuse immunoreactivity to WT-1 and focal positivity to EMA, Pan CK, calretinin, inhibin, CD10 and p53. They were negative for CA125, CK7, CK20, ER, PR, CD30, PLAP, CD45, CD56 and BHCg. The histological and immunohistochemical finding led to the diagnosis of SCCOHT. *Discussion:* SCCOHT is a rare tumour with approximately 300 cases reported in the literature. The definitive preoperative diagnosis of SCCOHT is difficult and pathological examination remains the gold standard. Recent studies show that SCCOHT is characterized by SMARCA4 (also known as BRG1) mutation which results in loss of BRG1 protein expression in immunohistochemistry. This has been shown to be a useful diagnostic marker in SCCOHT.

P35. Prevalence of cervical squamous intraepithelial lesions (SIL) on Papanicolaou stained smear cytology

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Introduction: Cervical cancer is the second most common cancer in Malaysia. The most frequent type of it is squamous-cell carcinoma (70-80%) developed from the precursor lesions squamous intraepithelial lesion (SIL). SIL is classified into low-grade squamous intraepithelial lesion (LSIL) and high-grade squamous intraepithelial lesion (HSIL). Other than human papilloma virus (HPV), other risk factors for cervical cancer include race and age. Early detection through regular Pap smear screening to identify pre-cancerous lesions can greatly reduce at risk population. This study was conducted to observe the prevalence of LSIL and HSIL in the collected samples from HRPB from year 2016 to 2018. Also, to identify the outcomes of LSIL and HSIL by age and race. *Materials and Methods:* This is a retrospective hospital-based descriptive study performed on all Papanicolaou stained smear cytology slide collections from the Pathology Department, HRPB, from 1st June 2016 to 31st May 2018. A total of 3646 data was collected. Slides were reviewed for the degree of LSIL and HSIL. Analysis was done in SPSSv.23. *Results and Discussion:* From 3646 reports, there were 14 (0.4%) cases of HSIL, 53 (1.5%) cases of LSIL and 3579 for others. By ethnicity, Chinese have the highest prevalence (50.0%) of HSIL while Indians have the lowest (0%). However, Indians have the highest (37.7%) prevalence of LSIL while other Bumiputera have the lowest (1.9%). By age group, age 51-60 and above have the highest (36%) prevalence of HSIL. Age ≤30 years have the lowest (0%) prevalence of HSIL. As for LSIL, age between 31-40 and 41-50 years old have the same (24.5%) highest prevalence of LSIL while age ≤30 years old have the lowest (7.5%) prevalence of LSIL. *Conclusion:* The overall prevalence of HSIL and LSIL in studied women is low. The Chinese ethnic group has the highest prevalence of HSIL and the Indian ethnic group has highest prevalence of LSIL.

P36. Role of immunohistochemical staining (PLA2R, THSD7A AND IgG4) in differentiating primary and secondary membranous glomerulonephritis in Hospital Serdang renal biopsies from 2012 to 2018

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Introduction: Membranous glomerulonephritis (MGN) is a disease characterised by immune complex deposition within the subepithelial region of the basement membrane. Differentiating the aetiology of primary (idiopathic) or secondary (secondary to underlying causes) MGN on the renal biopsy can be challenging because the management and prognosis is dependent on the correct identification of aetiopathological profile. This study was conducted to determine the use of PLA2R, THSD7A and IgG4 immunohistochemical stainings in differentiating between the two aetiopathological patterns. **Materials and Methods:** 48 confirmed cases of MGN were selected in this retrospective cross-sectional study. Immunohistochemical stainings of paraffin embedded glass mounted sections with PLA2R (Abcam antibody, 1:1200 dilution at pH 9), THSD7A (Abcam antibody, 1:100 dilution at pH 6) and IgG4 (Abcam antibody, 1:500 dilution at pH 6) were performed. Demographic and clinicopathological data were analysed by frequency analysis. The correlation between MGN and immunohistochemical stains were analysed via Spearman correlation test using SPSS version 24.0. **Results and Discussion:** Primary MGN was diagnosed in 27.1% of all confirmed cases of MGN cases. Among the cases of secondary MGN (72.9%), only one (1) had underlying hepatitis B infection. The remaining cases were due to Systemic Lupus Erythematosus (SLE). The mean age for patient with primary and secondary MGN was 50 and 30 years old respectively. Secondary MGN (56.2%) is more common in female. Nephrotic syndrome (68.8%) was the commonest presenting symptom. There is strong correlations between MGN types with PLA2R and IgG4 expression ($\rho=0.701$, $p<0.001$ and $\rho=0.721$, $p<0.001$ respectively), while a correlation albeit weak one is present between MGN types and THSD7A ($\rho=0.299$, $p=0.05$). In addition, there are also moderate correlations between IgG4 with PLA2R and THSD7A stains ($\rho=0.626$, $p<0.001$ and $\rho=0.479$, $p=0.03$ respectively). **Conclusions:** Our findings are in keeping with similar such studies which have reported correlations between PLA2R, IgG4 and THSD7A positivity in differentiating primary with secondary MGN.

P37. Stromal mast cells immunohistochemical study in invasive breast carcinoma and its relationship with prognostic parameters in Hospital Tuanku Ja'afar from 2015 to 2017

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Introduction: Mast cells have a role in innate and adaptive immune responses in tumour microenvironment which influence anti-tumour host defence, tumour development, neo-angiogenesis and metastatic propensity, affecting patient's outcome. This is a study of invasive breast carcinoma where the correlation between mast cell density with prognostic parameters such as tumour size, lymph node metastasis, lymphovascular invasion, histologic type and grade, oestrogen and progesterone receptor and HER2 expression was examined. **Materials and Methods:** A total of 160 cases of formalin-fixed paraffin-embedded invasive breast carcinoma tissues were selected and immunostained with CD117 antibody to highlight the mast cells. The stained mast cells were counted at 400x magnification in 10 fields and mast cell density was expressed by mean value. **Results and Discussion:** Most patients were ≥ 40 years old (92.5%) and Malay was the highest (66.3%). For histological type and grade, the highest was no special type (80.6%) and grade 3 (41.3%) respectively. For tumour size, T2 tumour was the highest (63.1%). The majority of cases (51.3%) were negative for lymph node metastasis but 59.4% showed lymphovascular invasion. For oestrogen receptor, progesterone receptor and HER2 expression, the expression pattern was in descending order; 64.4%, 53.1% and 25% respectively. There was no significant correlation between mast cell density with prognostic parameters. **Conclusions:** Insignificant correlation in prognostic parameters suggest that mast cells density may not be suitable prognostic marker for tumour progression because the density is relatively high in a significant subset of parameters. However, majority of cases demonstrate favourable outcome as most of cases are stage T2 without lymph node involvement and would respond to hormonal therapy.

P38. The location and size are helpful features in diagnosing sessile serrated adenoma/polyp

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Introduction: Sessile serrated adenoma/polyp (SSA/P) is now accepted as a precursor of colorectal carcinoma (CRC) through the serrated neoplastic pathway. Among the serrated colonic polyps (SCP), hyperplastic polyps (HP) show closer morphological features to SSA/P than the rest. It is important to differentiate between HP and SSA/P as SSA/P is a premalignant condition but not HP. In this study, the proportion of SSA/P among SCP and underdiagnosed cases of SSA/P were analysed. The association between SSA/P and non-SSA/P with demographic parameters and colonoscopic findings were also examined. **Material and Methods:** The slides of 198 cases of SCP comprising of HP, SSA/P and traditional serrated adenoma (TSA) were reviewed and reclassified accordingly. **Results and Discussion:** Out of 198 cases of SCP, 164, 29 and 5 cases were reclassified as HP, SSA/P

and TSA respectively. Sixteen cases of SSA/P were underdiagnosed as HP. From a total of 29 cases of SSA/P, 58.6% were ≥ 65 years old, 72.4 % were male and the majority (58.6%) were Chinese. For the location and size of SSA/P, 55.2 % were located in the right colon and 31% were ≥ 10 mm in size. There were significant associations between SSA/P and non-SSA/P with location ($p=0.004$) and size ($p=0.013$) of the polyps. *Conclusion:* There were underdiagnosed cases of SSA/P among HP possibly due to their close histological features. The location and size of any SCP may alert the pathologists of the possibility of SSA/P.

P39. Sinonasal extramedullary plasmacytoma in Malaysia: A systematic review

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Introduction: Plasmacytoma is a localized plasma cell neoplasm. It may arise from the bone or other tissues which is also known as extramedullary plasmacytoma (EP). Sinonasal tract is the most common site for EP. According to the literature, two-third of patients are male with the median age of diagnosis is at 55 years. The common clinical presentations include epistaxis, rhinorrhoea and nasal obstruction. Approximately 17-30% of patients with EP may develop multiple myeloma (MM). This study aimed to aggregate and describe the manifestations of sinonasal plasmacytoma reported through a systematic literature review. *Material and Methods:* An extensive search was conducted using SCOPUS, PubMed, and PubMed Central for case report published between inception to the fourth week of June 2019. Keywords used, included extramedullary or extraosseous or sinonasal or solitary and plasmacytoma. The eligible articles reported adult human with sinonasal plasmacytoma within Malaysia. *Results and Discussion:* Altogether, only five articles reporting one patient each were included in this review. All of the cases involved patients aged above 50 years in which three were female and two were male. Two patients presented with epistaxis, two with proptosis and one with rhinorrhoea. The radiological findings of patients with orbital manifestation showed extension of the tumour to the orbital wall. Further investigation for two of the cases shown MM, however, the reporting of diagnostic measure taken were inconsistent. Furthermore, successful response to treatment was dependent on the local extension of the tumour. *Conclusion:* Although the number of articles is not extensive, this review highlights gaps in the areas of MM detection associated with EP. Moreover, reporting of additional cases is warranted to reflect the actual trend of disease presentation, response to therapy and disease prevalence in our country.

P40. Angioimmunoblastic T-cell lymphoma with skin manifestations: A diagnostic conundrum

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Introduction: Angioimmunoblastic T-cell lymphoma (AITL) is an uncommon mature T cell malignancy, currently residing under the umbrella of nodal T-cell lymphoma with follicular T helper phenotype. It represents 1-2% of all cases of Non-Hodgkin lymphoma. It shares common symptom like other lymphomas, variable histological pattern and it must be differentiated from other malignant lympho-proliferative diseases, drug reactions and viral infections. Skin involvement occurs in up to 50% of patients. AITL typically display an aggressive behaviour with poor prognosis. *Case Report:* We are illustrating a case report of a 50-years-old male diagnosed with AITL who presented with prominent skin lesion without any B symptom. Examination showed generalized lymphadenopathy with multiple skin nodule seen. He was treated as infected sebaceous cyst at initial presentation. Skin biopsy show diffuse infiltrates of lymphoma cells in the absence of epidermotropism and histological features of AITL. The cells are positive for CD2, CD3, CD4, CD5, PD1. Immunoblasts are CD30+/ALK-. Occasional EBER+ immunoblasts seen. CD8, TIA and perforin are negative. Subsequently peripheral blood showed pancytopenia with presence of atypical lymphoid cells, suggestive of marrow infiltration. *Discussion:* A lymph node biopsy in diagnosing AITL is the gold standard. Skin biopsy poses a diagnostic dilemma because of the limited number of reported cases and subsequent lack of established diagnostic criteria as seen in this case. Therefore, clinical history and symptoms combined with current strides in immunohistochemical stains and molecular study helps secure the confidence of the diagnosis likely leading to earlier treatment.

P41. Oestrogen receptor and progesterone receptor as potential prognostic immunohistochemical markers and their association with outcome of thyroid cancer patients in Hospital Kuala Lumpur

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Introduction: Recent studies have shown significant correlation between oestrogen receptor (ER) and clinicopathological parameters of thyroid cancer. To date, there are no biochemical prognostic indicators available for thyroid cancer. In this study, we evaluated the potential of ER and progesterone receptor (PR) expression as prognostic markers in thyroid cancer and their correlation with clinicopathological parameters which include tumour size, metastasis, nodal involvement and clinical outcome.

Materials and Methods: This is a cross sectional study of 30 thyroidectomy cases from Hospital Kuala Lumpur between 2015 and 2018. Archived paraffin-embedded tissue blocks were sectioned and stained with ER and PR antibodies. ER and PR expression were correlated with clinicopathological parameters using Spearman correlation analysis. 5-year survival rate of patients were analysed using Kaplan-Meier curve. **Results and Discussion:** ER and PR were expressed in 40% and 20% of thyroid cancer patients respectively. There was significant correlation between ER expression and larger tumour size, ($\rho=0.58$, $p<0.005$) but PR expression showed no significant correlation ($\rho=0.163$, $p=0.389$). The mean tumour size for ER positive was 3.45 cm, and 2.23 cm for ER negative cases. However, both ER and PR expression showed no significant correlation with lymph node involvement ($\rho=0.208$, $p=0.135$ for ER, and $\rho=0.036$, $p=0.424$ for PR) and metastasis (for ER, $\rho=0.055$, $p=0.387$, and for PR, $\rho=0.2$, $p=0.135$). There was no linear association between expression of ER and PR with outcome of patients ($p=0.625$) and ($p=0.064$). **Conclusion:** Our findings are in keeping with other studies which reported positive correlation between ER and larger tumour size. Therefore, ER may be a poor prognostic indicator in thyroid cancer.

P42. Incidence of suspected Lynch syndrome in colorectal adenocarcinoma using a clinicopathological screening approach in Hospital Kuala Lumpur: Preliminary data

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Introduction: Lynch syndrome is an autosomal dominant cause of familial colorectal adenocarcinoma. 15% of colorectal adenocarcinomas are associated with mismatch repair (MMR) deficiencies of which 3-5% are caused by inherited germline mutations while 10-12% are due to sporadic MLH1 promoter hypermethylation. In view of the low sensitivity and high cost of selective germline testing, we employed National Comprehensive Cancer Network (NCCN) recommendations, reflex testing selective cases of colorectal adenocarcinomas by using clinicopathological criteria and an immunohistochemical (IHC) panel. This study describes the incidence of suspected Lynch syndrome in newly diagnosed colorectal adenocarcinomas using this approach. **Materials and Methods:** Paraffin sections of colorectal adenocarcinomas in HKL patients 60 years or younger or from the right colon or have poorly/ undifferentiated/ mucinous/ signet ring morphology or with presence of marked tumour intraepithelial lymphocytes were reflex tested for MutL homolog 1 gene (MLH1), MutS protein homolog 2 gene (MSH2), MutS protein homolog 6 gene (MSH6) and PMS1 homolog 2 gene (PMS2) simultaneously using IHC. Cases that exhibited abnormal/ absent staining for any one or pair of MMR proteins indicate biallelic loss-of-function mutations. Results were interpreted as a panel to determine the likelihood of an inherited Microsatellite Instability-High (MSI-H) cancer. These patients were then referred for confirmatory germline mutation testing and genetic counselling. **Results and Discussion:** 22 cases were screened from January to June 2019. One of these cases exhibited absence of staining for both MLH1 and PMS2, however further work up showed presence of a B-Raf proto-oncogene (BRAF) mutation indicating a sporadic cause. The other case showed absence of both MSH2 and MSH6 which is associated with a high likelihood of an inherited MSI-H cancer, requiring confirmation by germline testing. **Conclusions:** An incidence of 4.5% of colorectal adenocarcinomas in Hospital Kuala Lumpur has been found to have loss of IHC staining deemed suggestive of an inherited gene mutation associated with Lynch syndrome.

P43. Malignant gastrointestinal neuroectodermal tumour: A rare entity not to be missed

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Introduction: Gastrointestinal neuroectodermal tumour (GNET), previously referred to as clear cell sarcoma-like tumour of the gastrointestinal tract) is a rare sarcoma that commonly affects the young to middle age group. It has been reported to arise mostly from the wall of small intestine, followed by stomach and large intestine. GNET showed evidence of primitive neural phenotype, as well as exhibits EWSR1 gene rearrangement. However, it lacks melanocytic differentiation, as demonstrated immunohistochemically and on ultrastructural level. **Case Report:** A 49-year-old male who presented with symptoms of gastric outlet obstruction due to a pre-pyloric tumour of the stomach. A subtotal gastrectomy was performed. Macroscopically, the tumour (55 mm in widest dimension) was circumferential and exophytic, involving the full thickness of gastric wall. It showed brownish haemorrhagic and necrotic cut surfaces. Microscopically the tumour was lobulated and non-encapsulated, formed by plump spindle to polygonal cells that were arranged in vague short fascicles and sheets. These cells display prominent cytoplasmic clearing with pleomorphic and vesicular nuclei. Mitotic activity was up to 12/5 mm². There were many osteoclast-like giant cells (CD68+) dispersed throughout the tumour. Metastasis was present in one regional lymph node. This tumour was diffusely positive for vimentin, S-100 protein and SOX10. It was negative for HMB45, CD34, CD117, DOG-1, CD99, CD56, chromogranin, synaptophysin, actin and desmin. **Discussion:** GNET may be clinically confused with gastrointestinal stromal tumour. As such, awareness of this new entity and the recognition of the tumour morphology along with appropriate use of adequate panel of immunohistochemistry testing and molecular testing if necessary, is important as patients often present with metastasis.

P44. Orbital diffuse large B-cell lymphoma associated with chronic inflammation in a patient with orbital IgG4-related disease: A case report

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Introduction: IgG4-related disease is a fibroinflammatory condition affecting various organ systems. Recently, association between IgG4-related disease and malignancy has been suggested. **Case Report:** A 60-year-old man presented with bilateral eyes (BE) proptosis and blurring of vision since 2008. The first two biopsies from the left eye in 2010 and 2013 were reported as reactive fibroinflammatory process. Subsequent biopsy from the right eye in 2016 revealed all histopathological features of IgG4-related disease with abundant IgG4+ plasma cells and high IgG4+: IgG+ ratio, thus reported as 'highly suggestive of IgG4-related disease'. The patient was started on steroid but later was withheld due to pulmonary tuberculosis. In 2018, his symptoms became progressively worsened. The left eye biopsy shows nodules of lymphoid tissue with fibrotic stroma. The lymphoid nodules are composed of large lymphoma cells that are CD20+, CD79a+, PAX5+, Bcl6+, CD30+ (few) and EBER+. The cells also display high proliferation rate. Pathological diagnosis of 'diffuse large B-cell lymphoma (DLBCL) associated with chronic inflammation' was concurred. **Discussion:** The association between IgG4-related disease and malignancy, including lymphoma is controversial. Most lymphomas that occur in IgG4-related disease were reported in the Asian literature involving the orbit, predominated by low grade lymphomas. Our case is one of the few cases of higher grade DLBCL occurring in orbital IgG4-related disease. The most possible mechanism in this case is orbital lymphoma arising from IgG4-related disease, rather than de novo IgG4 expressing lymphoma.

P45. Locally aggressive porocarcinoma with prominent plasmacytoid differentiation: A rare skin adnexal neoplasm with unusual histological features

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Introduction: Porocarcinoma is a rare, malignant neoplasm of infundibulum part of sweat glands which represents only 0.005% of epithelial cutaneous neoplasms. It commonly occurs in elderly, with the mean age of 67 years old. Their localisation is unrelated to sweat-gland concentration and occurs mainly on the lower limbs. Here, we present a case of locally aggressive porocarcinoma with prominent plasmacytoid cells. **Case Report:** A 44-year-old female presented with a slow-growing left big toe swelling for one year that associated with on and off pain. The nail and nail bed were completely destroyed and replaced by a fungating and ulcerating tumour. Histological examination showed deeply infiltrative squamoid cell proliferation, arising from the ulcerated epidermis. The lesional cells are cuboidal to oval in shape, displaying mildly pleomorphic nuclei with little eosinophilic cytoplasm and appearing smaller than the adjacent non-neoplastic keratinocytes. There is presence of prominent plasmacytoid and occasionally clear cell changes. Mitotic figures and necrosis en masse are apparent in areas. Perineural invasion is evident with no lymphovascular invasion noted. CEA and EMA decorate intracytoplasmic lumina. The bone and surgical margins are free from tumour. **Discussion:** The prominent plasmacytoid differentiation was never reported before in the English language literature. This feature is more suggestive of cutaneous myoepithelial tumour (CMT), knowing the capabilities of myoepithelial cells to differentiate into many cell types including plasmacytoid. Ductular formation is also another feature that can be seen in CMT. However, markers for CMT namely S100, SMA EMA, and GFAP are negative, making the latter diagnosis unlikely.