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International Academy of Pathology Malaysian Division (IAPMD) 9th Annual Scientific Meeting (ASM) 2024: Lung and Molecular Pathology, Head and Neck Pathology, held on 7th – 8th September 2024. Abstracts of poster presentations presented are as follows:

Abstract

P001 Primary Invasive Papillary Adenocarcinoma with Aberrant Expression of CK-7 and TTF-1, Mimicking Secondary Metastasis to The Colon.

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Introduction: Primary colorectal adenocarcinoma displays several histopathologic subtypes. Adenoma-like adenocarcinoma is a newly recognised subtype of colorectal adenocarcinomas, which in the past were subclassified based on distinctive histopathologic appearance including villous tumour, invasive papillary adenocarcinoma and villous adenocarcinoma and has only been reported in a few literatures. The uncommon papillary-type of invasion along with aberrant expression CK-7 and TTF-1 poses a diagnostic challenge in differentiating between primary and metastatic adenocarcinoma. *Case report:* A post-menopausal, nulliparous 58-year-old Malay lady presented with a 10-month history of cramping right-sided abdominal pain. Colonoscopy revealed a fungating circumferential tumour at the ascending colon. The biopsy result came back as adenocarcinoma. Computed tomography showed no evidence of distant metastasis. She then underwent laparoscopic right hemicolectomy. Currently, she is under surveillance with her latest colonoscopy being normal. *Results:* Histologically, the tumour was characterised by infiltration of malignant cells arranged in complex glands and papillary structures with occasional psammomatous calcification present. The tumour cells exhibited positivity for CK-7, CK-20, TTF-1 and CK-19. Nevertheless, a primary colorectal tumour was favoured after additional sampling revealed areas of surface mucosal dysplasia, together with positive CDX-2 and CEA. *Discussion:* Colorectal adenocarcinoma with invasive papillary morphology is uncommon and for it to express CK-7 and TTF-1 makes it even more unusual, mimicking metastatic adenocarcinoma to the colon. Thus, for an uncommon subtype of colorectal adenocarcinoma with CK-7 and TTF-1 positivity, a primary colorectal tumour still could not be excluded. The importance of extensive sampling and dedicated ancillary tests can never be overemphasised.

P002 Sinonasal NUT Carcinoma: Two Case Reports

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Introduction: NUT carcinoma is a rare and aggressive tumour characterised by translocation and gene fusion of the NUTM1 gene. Thoracic/mediastinum is commonly affected followed by head and neck region with sinonasal tract being the commonest. It is underdiagnosed and underreported. We present 2 cases of NUT carcinoma with varied histological features and demography. *Case report 1:* A 22-year-old lady presented with eye visual impairment for 1 week associated with ophthalmalgia and epistaxis. CT scan revealed sinonasal enhancing lesion with intraorbital, intracranial and optic nerve involvement. *Case report 2:* An 84-year-old lady presented with reduced consciousness and vomiting for 3 days. CT scan revealed a large nasoethmoidal mass eroding sinus bone with intraorbital extension and compressing optic nerve. *Results:* Endoscopic biopsy from both patients showed firm, greyish-to-whitish mass. Histologically, both lesions are composed of poorly differentiated, high-grade tumour in solid sheets and clusters eroding bone. Tumour necrosis and abnormal mitoses are present. Abrupt squamous differentiation is only identified in Case 1. Perineural and lymphovascular invasion are observed in Case 1 and Case 2, respectively. Both tumours showed diffuse strong positivity of almost 100% for NUT1 immunostain. CKAE1/AE3 is diffusely positive in Case 1 but focal in Case 2. Focal positivity to p63 is seen in both. *Discussion:* The rarity and non-unique histologic features have contributed to underdiagnosis and underreporting of NUT carcinoma. Though abrupt keratinisation/squamous differentiation can be a characteristic feature, it is only present in about one-third of cases. Accessibility to diagnostic tests is essential to avoid misdiagnosis.

P003 Lymphoepithelial Carcinoma: Excision helps!

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Introduction: Lymphoepithelial carcinoma (LEC) of the salivary glands is a rare malignancy characterised by undifferentiated carcinoma cells mixed with a prominent lymphoid stroma, resembling an undifferentiated nasopharyngeal carcinoma. It is often associated with Epstein-Barr Virus (EBV) infection, especially in Southeast Asia. LEC commonly affects the parotid

gland and usually presents as a painless, slow-growing mass. *Case Report:* Two cases were analysed. The first involved a 34-year-old man with a firm swelling in the right submandibular region. Fine-needle aspiration cytology (FNAC) suggested a primary salivary gland tumour, likely LEC, however, metastasis could not be ruled out. A submandibulectomy was performed. The second case was a 46-year-old woman with left cheek swelling and cervical lymphadenopathy near the left masseter muscle. Initial needle core biopsy indicated a possible neoplastic or inflammatory process. Surgical excision was performed. *Results:* Histopathology in both cases showed malignant epithelial cells in cohesive sheets and nests with large vesicular nuclei, prominent nucleoli, and abundant eosinophilic cytoplasm, surrounded by dense lymphoid stroma. Immunohistochemistry showed positivity for cytokeratin, p63 positivity, and EBV. *Discussion:* While FNAC and needle core biopsy are valuable, they often require a larger tissue sample for definitive diagnosis. LEC, despite its high-grade histology, typically has a favourable prognosis with complete surgical resection and radiotherapy, likely due to its good treatment response and possible immune-mediated effects. Distinguishing LEC from other salivary gland tumours and nasopharyngeal carcinoma is essential. Future research into genetic alterations like p53 mutations and microsatellite instability may offer insights into pathogenesis and potential therapeutic targets.

P004 PECOliar MAss of the tongue – A case report of a rare tumour in a rare location

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Introduction: Perivascular epithelioid cell tumour (PEComa) is a rare mesenchymal neoplasm composed of distinct cells associated with blood vessel walls. PEComas have a wide anatomical distribution but are most often found in the retroperitoneum, abdominopelvic region, uterus, and gastrointestinal tract. They are characterised by epithelioid and/or spindle cells with granular eosinophilic to clear cytoplasm, arranged in nested, trabecular, or sheet-like architecture with frequent perivascular orientation. *Case report:* We report a rare case of a tongue neoplasm in a 2-year-old girl, diagnosed by histopathology with the aid of immunohistochemical studies (IHC). Examination revealed a firm lateral tongue mass measuring 5 × 5 cm. *Results:* Excision of the mass showed a mesenchymal neoplasm with myomelanocytic differentiation. The neoplastic cells demonstrated epithelioid morphology in sheets and nests associated with a perivascular distribution. The cells exhibited mild to moderate atypia with enlarged nuclei, prominent nucleoli, and occasional mitoses. Stromal hyalinization was noted, while necrosis was absent. IHC showed positivity for TFE3 (diffuse and strong nuclear positivity), SMA (diffuse and strong positivity), and Melan-A (focal positivity), while negative for S100, HMB-45, and MyoD1. The proliferative index Ki-67 was < 5%. Based on the morphology and IHC, a benign TFE3-associated PEComa was concluded. *Discussion:* This case represents a rare subtype of PEComa that is characterised by specific genetic alterations involving the TFE3 gene. Similar to classic PEComas, it shows variable co-expression of melanocytic and myogenic markers. While molecular genetic testing remains the gold standard for its diagnosis, TFE3 IHC positivity is a key diagnostic feature for TFE3-associated PEComas.

P005 Rosai-Dorfman Disease of Paranasal Sinuses Presenting As Polyposis: A Case Report

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Introduction: Rosai-Dorfman Disease (RDD) is a histiocytic neoplasm. Both nodal and extranodal manifestations have been reported. We hereby present a case of RDD involving paranasal sinuses. *Case report:* A 55-year-old Malay man was presented with prolonged chronic rhinosinusitis. CT scan and Functional endoscopic sinus surgery showed polyposis involving bilateral ethmoid sinus, sphenoid sinus and maxillary sinus. Polypectomy was done. *Results:* Histologically, polypoid respiratory typed mucosa fragments showed infiltration of atypical histiocytes with abundant pale cytoplasm, admixed with inflammatory cells. Emperipolesis was identified. These histiocytes were immunoreactive for S100 protein, CD163, OCT 2 and Cyclin D1. CD68 showed focal staining pattern. RDD was confirmed. *Discussion:* RDD is a heterogeneous entity that occurs as an isolated disorder, or in association with autoimmune, hereditary or malignant diseases. In head and neck regions, RDD commonly involves nasal cavity, paranasal sinuses, orbit and oral cavity. RDD of the nasal cavity and paranasal sinuses may show mucosal infiltration or formation of polyps; adjacent bone may be eroded. Concomitant cervical nodal involvement may or may not be present. A subset of RDD shows mutation in mitogen-activated protein kinase (MAPK) signalling pathway. The positive staining for Cyclin D1 in the abnormal histocytes is evidence of activation of MAPK pathway. OCT2 is a novel marker for the monocyte-macrophage phenotype of RDD. It is important to aware that RDD can present as paranasal sinuses polyposis. When encountering RDD, further evaluation to determine extent of the disease and to exclude concurrent disorders may be indicated. Management depends on the extent of organ involvement and clinical symptoms.

P006 The Characterisation of MDM2 and CDK4 Gene Amplification and Its Recurrence Among Liposarcoma Patients

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Introduction: MDM2 and CDK4 are frequently amplified genes in liposarcoma. This study focused on their amplification pattern, evaluating their impact on patient prognosis. *Material and Methods:* Formalin-fixed paraffin-embedded samples of liposarcoma or benign lipomatous tumours (≥10 cm) diagnosed at Hospital Universiti Sains Malaysia (2014-2021) were subjected to Fluorescence *in situ* Hybridisation (FISH) for MDM2 and CDK4 gene amplification detection. Recurrence-free survival (RFS) and metastasis-free survival (MFS) were evaluated based on amplification status, and associations between clinicopathologic variables and recurrence were analysed. *Result:* Among 86 cases, 23 (26.7%) were liposarcoma and 63 (73.3%) were benign lipomatous tumours following reclassification by FISH. MDM2 and CDK4 co-amplification (12.8%) was observed in all dedifferentiated liposarcoma (DDLS, 6/6), and half of the atypical lipomatous tumours/well-differentiated liposarcoma cases (ALT/WDLS, 5/10). Five MDM2-amplified cases (5.8%) lacked CDK4 amplification, all detected in ALT. No amplification of either gene in myxoid liposarcoma, pleomorphic liposarcoma, or benign tumours. DDLS displayed higher MDM2/CEN12 and CDK4/CEN12 amplification ratios (4.4 and 2.8) than ALT/WDLS (2.9 and 2.6). In both subtypes, MDM2 amplification ratio exceeded CDK4. Co-amplification group had significantly worse RFS (p= 0.001; median 34 months) and MFS (p=0.003; median 83 months) than other groups. Cox analysis showed significant associations between recurrence and retroperitoneal site, metastasis, and MDM2/CDK4 amplification status (all p<0.01). *Discussion:* The observed inconsistency of CDK4 amplification and its lower amplification ratio compared to MDM2 suggest that CDK4 plays a secondary role in tumorigenesis. However, its co-amplification with MDM2 significantly worsened prognosis, indicating a potential synergistic effect in promoting recurrence and metastasis.

P007 An Unusual Encounter: Adenoid Cystic Carcinoma in the Male Breast

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Introduction: Adenoid cystic carcinoma (AdCC) of the breast is an uncommon neoplasm in males, with only 19 cases reported in the existing literature. This unusual histological subtype accounts for less than 0.1% of all breast carcinomas. Herein, we report a case of a male patient presented with AdCC of the left breast. *Case report:* This is a 63-year-old male who presented with a painless lump in his left breast for a year, slowly increasing in size. There was no associated nipple discharge or skin changes noted. His ultrasound findings revealed a left retroareolar solid lesion with BI-RADS 4A. Subsequently, an excisional biopsy was performed on his left breast lump. *Results:* Microscopic examination showed a partially circumscribed and unencapsulated lesion composed of a dual-cell population of luminal and basaloid cells in cribriform pattern. Pseudo-lumens are seen, containing basophilic matrix and basement membrane material. The tumour cells have bland, monotonous appearance with low mitotic activity. Immunohistochemistry showed the luminal cells are positive for CKAE, EMA and CD117. The myoepithelial cells were positive for p63. Surprisingly, weak to moderate ER positivity was observed in about 70% of the tumour cells. PR and Her2 staining were negative. *Discussion:* The classic breast AdCC features a triple-negative pattern, however, some cases have been reported to show ER positivity. In our case, the typical morphology and immunophenotype are sufficient to make a diagnosis of breast AdCC. It is imperative that it should be differentiated from invasive cribriform carcinoma and collagenous spherulosis.

P008 Clinicopathological Spectrum Of Malignant Melanoma In A Tertiary Care Centre: Retrospective Study Of Ten Years

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Introduction: Although classic histomorphological picture of malignant melanoma can be easily diagnosed, MM is known to be a "great mimicker" of other malignancies and is difficult to diagnose in some locations. Extensive immunohistochemical and molecular testing performed nowadays can assist in diagnosis, however it may be open to subjective interpretation. Hence, awareness of morphology of various histomorphological types of melanoma and its site predilection will help in diagnosis. This 10-year-long retrospective study aims to portray the histomorphological spectrum of melanoma with emphasis on the various histomorphological types and locations of melanoma in the Indian population. *Materials and Methods:* This study is a retrospective cross-sectional study. Five hundred forty-three cases of MM were diagnosed over a period of 10 years (2014 to 2024) in the Department of Pathology in a tertiary hospital and were included in the analysis. The slides were retrieved from the archives and reviewed by two pathologists for definitive confirmation of the diagnosis. Clinical data including age, gender, clinical presentation, site of the lesion and clinical diagnosis were obtained from the hospital requisition records. Malignant melanoma was further classified into cutaneous, mucosal and metastatic melanoma. Patterns of conventional,

superficial spreading, lentigo maligna melanoma, nodular melanoma, acral lentiginous melanoma and amelanotic melanoma were assessed in various sites. *Results:* Among 543 cases of malignant melanoma, The patients were mostly elderly (range: 50-70 years) with slight male preponderance (Male: female ratio: 1.3) Majority of patients were within the age group of 50-70 years. Mucosal melanoma comprised 41% of all cases of melanoma. The highest number of cases were seen in the anorectum (23%), followed by vagina (29), sinonasal (29), oral cavity (20), penis (6), oesophagus (5), cervix (2), larynx (2), nasopharynx (2) and lip(2). There was one case respectively of stomach, urethra and colon. Among 206 patients diagnosed as cutaneous melanoma (37.9%) the highest number of cases were seen in acral melanoma constituting 24.6% (134) of all the cases. The other common sites were the lower limb (35), scalp (11), upper limb (5), cheek (4) back (3), forearm (3) breast (2), and gluteal region (2). Classical melanoma was observed in majority of the cases in cutaneous and mucosal location. Acral lentiginous melanoma and superficially spreading melanomas were observed in the acral site. Spindle cell melanoma were seen commonly in cutaneous locations like neck and mucosal locations like oral cavity and vulva. Nodular melanoma was observed commonly in the scalp. Amelanotic melanoma were observed in mucosal as well as cutaneous locations with no significant predilection to the site. Only five cases of uveal melanoma were observed in the Indian population over a period of ten years. *Conclusion:* This study serves as a data point for the various types of melanomas in order to generate awareness among pathologists to effectively diagnose at an early stage as well as pick up clues to diagnose malignant melanoma in unfamiliar sites or metastatic sites in which no prior information of primary has been given.

P009 Unwrapping the Enigma: A Rare Case of Central Nervous System Diffuse Large B-Cell Lymphoma

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Introduction: Hemiplegia is a common presenting complaint with a wide aetiology, including neoplasms. Rarely, primary CNS lymphoma is diagnosed, accounting for 2.4-3% of all brain tumours. CNS-DLBCL is commonly associated with immunodeficiency state, but cases in immunocompetent individuals have been reported. *Case Report:* 67 years old female presented with reduced responsiveness and progressively worsening right-sided body weakness and upper motor neuron facial palsy. Computed tomography (CT) of brain showed left parietal intra-axial lesion with midline shift. Clinical impression was left parietal intra-axial lesion with differential diagnoses high grade glioma, brain metastasis and primary central nervous system lymphoma. Patient underwent left craniotomy and biopsy with fresh frozen section. *Results:* Macroscopic examination showed multiple fragments of tan greyish tissues. Microscopic examination showed hypercellular tumour cells in a highly vascularised background. The tumour cells are discohesive and fairly monotonous with scattered tingible body macrophages and entrapped glial tissue. Mitosis including brisk forms seen. The tumour cells show immunopositivity for pan B cell markers (CD20, CD19, CD79a), diffuse positivity towards BCL2, BCL6 and MUM1, with Ki67 70-80%. *Discussion:* CNS-DLBCL is often associated with immunodeficient state. Majority of cases present as solitary brain lesion. In contrast, secondary lymphoma usually involves leptomeninges and CSF with multifocality and supratentorial distribution. The prognosis of patients relies heavily on factors such as age and physical condition. Timely diagnosis and effective management are critical for improving health outcomes. The peculiar clinical, genetic, and biologic features of CNS-DLBCL suggesting immune evasion that may be leveraged for therapeutic strategies.

P010 Rapidly Growing Alveolar Soft Part Sarcoma Of The Chest Wall In The Elderly: A Case Report.

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Introduction: Alveolar soft part sarcoma (ASPS) is an extremely rare sarcoma with uncertain histogenesis, characterised by the ASPSCR1-TFE3 gene fusion. Despite its typical indolent behaviour and slow progression, it is known for early metastasis and primarily affects adolescents and young adults. Here, we present an unusual instance of ASPS in an elderly patient presented with a rapidly growing chest wall swelling. *Case Report:* A 75-year-old man, complained of a 15-month history of left posterolateral chest wall mass, rapidly enlarged over the past 8 months. MRI revealed a large intramuscular soft tissue lesion with differential diagnoses of elastofibroma dorsi, liposarcoma, and undifferentiated pleomorphic sarcoma. *Results:* Initial tru-cut biopsy revealed extensive necrosis with a few sheets of tumour cells, which were positive for vimentin. The lesion was initially diagnosed as high-grade sarcoma with a differential diagnosis of liposarcoma. Subsequent resection of the tumour revealed a large soft tissue mass weighing 3.5 kg, consisting mainly of central necrotic component with a solid periphery. Histological examination showed tumour cells arranged in a distinct organoid, nesting, and alveolar pattern, exhibiting strong and diffuse TFE3 nuclear staining with PAS-positive intracytoplasmic granules. *Discussion:* ASPS garners significant interest from pathologists and clinicians due to its rarity. Most studies on ASPS are limited to case reports or small series. This case underscores the necessity of including ASPS in differential diagnoses, even in atypical presentations. Advancements in molecular diagnostics have highlighted TFE3 as a valuable surrogate immunohistochemical marker for diagnosing ASPS, thereby enhancing our understanding and identification of this rare sarcoma.

P011 Adenosquamous Carcinoma Of The Colon: A Rare Gem In The Adenocarcinoma Spectrum.

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Introduction: Adenosquamous carcinoma (ASC) of the colon is an exceptionally rare and aggressive malignancy featuring both glandular and squamous cell carcinoma components. *Case Report:* We present a 62-year-old man with a year-long history of constipation, intermittent tenesmus, and one month of constitutional symptoms. A CT scan revealed circumferential transverse colon wall thickening with mesenteric lymphadenopathy and liver metastases. Colonoscopy showed a tumour at the splenic flexure, and a biopsy indicated moderately differentiated adenocarcinoma. The patient underwent open right hemicolectomy with complete mesocolon excision. Histopathological examination revealed mixed adenocarcinoma and squamous carcinoma. Molecular studies showed Microsatellite Stable (MSS) and no mutations in KRAS, NRAS, and BRAF genes. *Discussion:* ASC of the colon is rare, representing about 1% to 4% of colorectal tumours. Literature is limited to case reports or small series, underscoring its rarity and diagnostic challenges. Surgical resection remains the primary treatment due to the lack of effective alternatives and the generally poorer prognosis compared to adenocarcinoma. *Conclusion:* Adenosquamous Carcinoma of the colon poses significant diagnostic and therapeutic challenges due to its rarity, aggressive nature, and unique histological features.

P012 Assessment of Tumour-infiltrating Lymphocytes and its Programmed Death-1 Expression in Colorectal Carcinoma in Hospital Universiti Sains Malaysia

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Introduction: Tumour-infiltrating Lymphocytes (TILs) in colorectal carcinoma (CRC) have a significant prognostic value. Meanwhile, Programmed Death-1 (PD-1) positive TILs expression is associated with patient's therapeutic outcome. Hence, this study aims to investigate the TILs and PD-1 expression in CRC and to determine its association with clinicopathological features. *Materials and methods:* Paraffin-embedded formalin-fixed tissue samples of 79 CRC cases diagnosed from January 2013 to December 2017 were retrospectively collected from the Pathology Department, Hospital Universiti Sains Malaysia. The status of TILs was assessed using International TILs Working Group System. The PD-1 expression was evaluated using immunohistochemistry method. The result of TILs and PD-1 expression and its association with clinicopathological features was analysed using Pearson chi-square and Fisher Exact tests. *Results:* From a total of 79 cases, mostly male at 54.4% and overall age range 33-85 years old, the most predominant demographics were reported for loose stool symptoms at 32.9%, left-side tumour location (91%) and moderately differentiated histology grade at 88.6%. A high percentage of "age >60", "male gender", "left-side CRC", and "low PD-1 positive TILs" were observed in low TILs, however, were not significant. Only high-stage diseases (stage III and IV) were significantly associated with low TILs ($p = 0.009$). *Discussion:* Our study findings demonstrated TILs score as a potential biomarker for prognostic predictor for CRC outcomes. Low TILs are significantly associated with an advanced stage, indicating a poor prognosis. However, majority of our cases expressed low PD-1 positive TILs staining which was inconsistent with previous studies. Hence, MMR proteins status information is required.

P013 Alveolar Soft Part Sarcoma with Lung Metastasis in A Young Woman: A Case Report

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Introduction: Alveolar soft part sarcoma (ASPS), is a rare sarcoma of uncertain histogenesis of deep soft tissues of extremities in young adults. ASPS behaves as a slow-growing indolent tumour and patients often present with metastasis at time of diagnosis. It is characterised by a specific ASPSCR1-TFE3 gene fusion. Complete surgical resection remains the standard treatment strategy, while radiotherapy is indicated for patients with inadequate surgical margins or unresectable tumours. *Case report:* A 20-year-old lady presented with increasing right lateral distal thigh swelling for 2 years. Magnetic resonance imaging (MRI) scan showed a huge well-defined lobulated intramuscular solid mass within the vastus lateralis and intermedius muscles. Computed tomography thorax, abdomen and pelvis further revealed lung metastasis. *Results:* Needle core biopsy was consistent with ASPS. The tumour shows presence of periodic acid-Schiff positive, diastase resistant intracytoplasmic crystals with diffuse nuclear staining by TFE3. Patient subsequently underwent a wide surgical excision of the tumour. *Discussion:* ASPS accounts for <1% of all soft tissue sarcomas, commonly involving the extremities, predominantly the lower limbs and showed a female preponderance. Due to lack of associated symptoms and functional impairment, patients are usually presented with metastatic disease which is also detected during tumour staging. Typical histomorphology of polygonal cells in organoid nests with central discohesion resulting in alveolar pattern and presence of intracytoplasmic rod-like/rhomboid crystalline structure are characteristic of ASPS. Immunohistochemistry panel consists of pancytokeratin, myogenic markers, neuroendocrine markers and melanocytic markers are mandatory to exclude other potential differential diagnoses. TFE nuclear expression by immunohistochemistry is essential in diagnosis of ASPS.

P014 Primary Thyroid Lymphoma in The Background of Hashimoto Thyroiditis: A Case Report

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Introduction: Primary thyroid lymphoma (PTL) is a rare neoplasm of all thyroid malignancies and extranodal lymphomas. Hashimoto thyroiditis is found in most of the cases with PTL. The prognosis is favourable in localised disease and early diagnosis improves patient outcome. *Case report:* A 64-year-old lady with underlying rheumatoid arthritis, diabetes mellitus, hypertension and dyslipidaemia presented with one year history of painless neck swelling. Ultrasound findings revealed multinodular goitre with suspicious right thyroid nodule (TIRADS 5). Fine needle aspiration (FNA) and core needle biopsy (CNB) were suggestive of high-grade B-cell lymphoproliferative disease. Subsequently, right hemithyroidectomy was performed. Serology showed positive thyroid peroxidase antibody. *Results:* The right hemithyroid showed partly nodular and partly ill-defined, homogeneous solid pale tan lesion occupying almost the entire right lobe. Microscopic examination demonstrated diffuse infiltration by large-sized neoplastic B-cells with prominent oxyphilic metaplasia in the residual thyroid follicles. *Discussion:* PTL is a rare thyroid neoplasm accounting for 5% of all thyroid malignancies and 2% of the extranodal lymphomas. The majority of PTL are B-cell non-Hodgkin lymphomas with diffuse large B-cell lymphomas reported in more than half of the cases. The association of autoimmune thyroiditis and PTL was found in 90% of cases on histopathological examination. The diagnosis of PTL is directed by FNA and/or CNB with the latter being the gold standard for determination of lymphoma subtype. Early diagnosis in a patient with underlying autoimmune disease presented with progressive neck enlargement is a hint of diagnosing a malignant thyroid disease particularly PTL.

P015 Death due to small bowel volvulus in a 16-month-old boy: A case report

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Introduction: Small bowel volvulus is a rare but important cause of small bowel obstruction in children. *Case report:* A previously healthy 16-month-old boy presented with severe vomiting over 24 hours and clinically treated as acute gastroenteritis. He rapidly deteriorated, requiring resuscitation and PICU admission before succumbing to his illness. USG abdomen showed fluids filled dilated bowel loops with mild circumferential wall thickening, reduced peristalsis and vascularity. A whole-body CT scan showed generalised bowel dilatation. A clinical postmortem was performed to determine the cause of death. *Results:* Internal examination showed dilated and dusky small bowel with an area of twisted loop of small bowel. The cut opened loop showed congested and dusky mucosa with loss of mucosal folds. Microscopic examination revealed evidence of ischaemic small bowel consistent with small bowel volvulus. *Discussion:* Small bowel volvulus is rare in children and is rarely a considered diagnosis in this age group. Hence, clinicians and surgeons should maintain a high index of suspicion and consider it a possible differential diagnosis, as any delay in initiating treatment can have devastating effects on morbidity as well as mortality.

P016 A rare case of primary synovial sarcoma of the lung

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Introduction: Synovial sarcoma is a malignant mesenchymal neoplasm that commonly affects periarticular sites in the extremities, but it can also occur in the trunk, head and neck, and other unusual locations. Primary intrathoracic synovial sarcomas are extremely rare, with most cases involving the pleura and pulmonary parenchyma, followed by the mediastinum. *Case report*: A 54-year-old Malaysian woman with an incidental finding of a solitary pulmonary lesion underwent uniportal video-assisted thoracoscopic surgery (VATS) for a right lower lobectomy. Histopathological examination of the lesion revealed a cellular neoplasm composed of monomorphic ovoid to spindled cells, positive for pan-cytokeratin, TLE-1, and BCL2. The presence of SS18 gene rearrangement was confirmed by fluorescence in situ hybridization (FISH). A diagnosis of monophasic synovial sarcoma was rendered. *Discussion:* This case represents a rare instance of primary pulmonary synovial sarcoma, which accounts for only 0.5% incidence of primary lung malignancies. Diagnosis involves distinguishing primary tumours from metastatic ones and considering other histological mimics such as solitary fibrous tumour (SFT) and malignant peripheral nerve sheath tumour (MPNST). The t(X;18)(p11;q11) translocation is a key cytogenetic feature that can be detected via FISH, reverse transcription polymerase chain reaction (RT-PCR), or next-generation sequencing (NGS). SS18-SSX fusion-specific antibody and SSX C-terminus antibody are highly sensitive and specific immunomarkers that may be used as an alternative to molecular or cytogenetic testing.

P017 Modified Sequential Double-Staining Immunohistochemistry Technique in Identifying Hodgkin Cells

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Introduction: Hodgkin cells are pathological cells that have heterogeneous appearances. Confirming these cells are pathognomonic for Hodgkin lymphoma, and the used of immunohistochemistry (IHC) markers like CD30 and PAX5 are required. It is challenging to identify them in two separate IHC slides. This experiment highlights the use of modified double-staining method in identifying the Hodgkin cells. *Materials and Methods:* Selected tissue blocks were sectioned at 2.5-micron thickness and pretreated in pH 6 and pH 9 buffer using a pressure cooker for 20 minutes at 110°C, followed by peroxidase blocking and incubation with primary antibody PAX5. Rabbit linker, secondary antibody and DAB brown were later added. Next was incubation in acidic block and normal goat serum of the two groups at 2 and 30 minutes. Repeated steps were done with CD30 using mouse linker and DAB green, using sequential method. Finally, DPX mounting solution was used. *Results:* The double-staining method pretreated using pH 9.0 buffer and longer incubation period with linker showed better intensity of staining. Acid and normal goat serum as blockers produced less background staining. Green (cytoplasm/ cell membrane) and brown (nucleus) chromogen colours were good contrast. DPX mounting solution was more stable in retaining the green chromogen at room temperature. *Discussions:* Improvising the manufacturer's protocol such by adjusting the buffer's pH, addition of linker, altering the incubation period and using different mounting solutions are needed in the process of optimising the IHC staining quality.

P018 Network Analysis and Profiling of Gene Mutations in Colorectal Cancer (CRC) Using Next Generation Sequencing (NGS) Data in Hospital USM.

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Introduction: Next-generation sequencing (NGS) is a cutting-edge technology that enables non-invasive profiling of the whole genomic makeup of cancer specimens at an unprecedented rate, crucial for the early detection of colorectal cancer (CRC). *Material and Method:* DNA was extracted from formalin-fixed paraffin-embedded (FFPE) samples of CRC patients using QIAamp DNA FFPE extraction kit. High-throughput NGS was performed using the Illumina targeted focus panel kit, generating FASTq data processed with Illumina BaseSpace software. Following the application of filter criteria, variant calling and interpretation were analysed using Illumina Variant interpreter. Descriptive analysis was performed using GraphPad Prism and OriginPro software. *Results:* After applying filter criteria for identification of CRC-specific variants, 105 variants were identified from 552 across 15 genes and 9 chromosomes. The four most upregulated genes were ALK (>95%), FGFR4 and NRAS (50-95% apiece), and ERBB3 (30-95%). The least regulated genes were ERBB2, FGFR3, APC, and ESR1 at 25-40%. Also, the most associated chromosomes with >95% involvement with specific genes detection included chr1 for NRAS, chr2 for ALK, chr3 for PIK3CA, chr5 for FGFR4, chr6 forESR1, chr8 for FGFR4 & MYC, chr12 for ERBB3 & KRAS, and chr17 for ERBB2. The most recent year, 2021, showed a higher proportion of variant detection compared to previous years. *Discussion:* This detailed profiling allows the identification of specific gene mutations, chromosomal abnormalities, and other genetic alterations associated with CRC development and progression, offering valuable insights for early detection and personalised treatment strategies.

P019 Intravascular Large B-Cell Lymphoma of the Breast: An Extremely Rare Entity

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Introduction: Intravascular large B-cell lymphoma (IVLBCL) is an uncommon form of extranodal B-cell lymphoma, characterised by the proliferation of lymphoma cells within the lumens of blood vessels, involving any organ. To date, IVLBCL of the breast is extremely rare with only six cases have been reported. Despite aggressive treatment protocols, the prognosis remains challenging. Due to its rarity and ability to mimic other conditions, IVLBCL requires careful consideration to avoid being overlooked. *Case report:* We reported a 67-year-old woman presented with bilateral breast swelling and pain along with weight loss for two months. Physical examination revealed mottled skin over both breasts, chest and abdomen. No obvious lump, skin puckering or nipple discharge were observed. *Result:* Ultrasound of the breasts showed bilateral heterogenous non-mass lesion with increased echogenicity of the fat, indicating extensive inflammatory changes. MRI findings were consistent, showing increased interstitial fat stranding indicative of inflammatory changes as BIRADS 4a. Biopsy revealed atypical lymphocytes within small and medium-sized blood vessels. The cells were immunoreactive for

B-cell markers CD20, CD79a, BCL2, MUM1 and showed focal positivity for BCL 6. Trephine biopsy showed no infiltration. *Discussion*: This case provides valuable insights, that may prompt different approaches of similar cases in the future and thereby potentially improving the prognosis of this rare disease.

P020 Comprehensive Insights into Male Breast Cancer at Hospital Universiti Sains Malaysia: An Analysis of Case Series

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Introduction: Breast cancer in men is uncommon, constituting only 1% of breast cancer cases worldwide. This study explores male breast cancer cases at Hospital Universiti Sains Malaysia (USM) from 2013 to 2023. *Case Presentation:* Over a decade, seven male breast cancer cases were identified, comprising 1.1% of 633 breast cancer cases. The average age of diagnosis at 61.5 years (range: 34-74). Mammogram findings varied; BI-RADS 6 (2 cases), BI-RADS 5 (1 case), BI-RADS 4 (3 cases), and BI-RADS 3 (1 case). Histopathology diagnosis revealed four invasive carcinomas (NST), two papillary carcinomas (intraductal, encapsulated), and one invasive cribriform carcinoma. Most tumours (6 out of 7) were oestrogen receptor-positive and all were HER-2-negative except one. Three cases presented with axillary lymph node invasion. Treatment mainly encompassed mastectomy with axillary clearance. Adjuvant chemotherapy (5-fluorouracil, epirubicin, cyclophosphamide) was standard, except in one case with a tumour larger than 5 cm and positive lymph nodes, where neoadjuvant chemotherapy was administrated. Radiotherapy followed chemotherapy in three cases. Tamoxifen was commonly used. CT scans revealed lung metastasis in the HER-2 positive case; no distant metastases were observed in the other cases. Notably, two patients were smokers, and two had first-degree relatives with breast cancer. *Discussion*: Male breast cancer is a rare entity. Its management demands a multidisciplinary approach tailored to individual factors. Greater awareness and research are crucial to address this significant but infrequent condition.

P021 Evaluation of NGAL and KIM-1 Immunohistochemical Stains as Disease Severity Markers in Lupus Nephritis: A Retrospective Study (2021-2023).

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Introduction: Systemic lupus erythematosus (SLE) is a complex autoimmune disease that often leads to immune-mediated nephritis in over 60% of cases, significantly increasing morbidity and mortality. Prognostic assessments in lupus nephritis are challenging. This study investigates the potential utility of immunohistochemical staining of Neutrophils Gelatinase Associated Lipocalin (NGAL) and Kidney Injury Molecule-1 (KIM-1) as predictors of lupus nephritis severity, addressing a critical gap in understanding and guiding management for better outcomes. *Materials and Methods*: This cross-sectional study used retrospective data from Hospital Sultan Idris Shah, Serdang including 41 lupus nephritis patients aged 18 and above, from 2021 to 2023. Patients with renal biopsy, histologically confirmed to be lupus nephritis were included in this study. Immunohistochemical staining of NGAL and KIM-1 were assessed. Statistical analyses, including Spearman correlation, evaluated associations between staining markers and disease severity. *Results*: The cohort had a median age of 28 years, predominantly Malay ethnicity (78%), and female gender (95.1%). All patients presented with proteinuria and varied renal function: normal (48.8%), mild (26.8%), moderate (14.6%), and severe (9.8%) impairment. NGAL and KIM-1 showed non-significant correlations with disease activity indices. However, KIM-1 staining demonstrated a weak inverse correlation with the chronicity index (rho -0.371, $p = 0.017$) and tubulointerstitial damage (rho -0.363, $p = 0.02$). *Discussion*: KIM-1 may be a potential marker for predicting disease severity in lupus nephritis, particularly chronicity and chronic tubulointerstitial damage. The limited significance is due to the complexity of lupus nephritis, lack of established scoring methods, and small sample size, highlighting the need for further research to validate these findings.

P022 Poorly Differentiated Lung Adenocarcinoma

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Introduction: Lung cancer is the most common cancer in Malaysia, often diagnosed at an advanced stage and causing the highest number of cancer-related deaths. Lung adenocarcinoma has become the most frequently detected type, replacing the historically benign squamous cell carcinoma. Here, we report a case of poorly differentiated adenocarcinoma that required

extensive immunostaining for a definitive diagnosis. *Case report:* A 63-year-old man with ischaemic heart disease, diabetes mellitus, and hypertension presented with an anterior mediastinal mass, complicated by a left brachiocephalic vein thrombus and left vocal cord palsy. Imaging revealed a likely malignant anterior mediastinal mass with adjacent structure invasion. Subsequent findings showed brain metastasis, leading to a referral to palliative care. A CT-guided biopsy was performed. *Results:* Microscopic examination revealed extensive tumour necrosis with scattered malignant cells exhibiting marked pleomorphism without specific tumour differentiation. The malignant cells are focally positive for CAKE1/AE3 and TTF1, while negative for CK7, CK20, CD45, EMA, thyroglobulin, Pax8, CD56, synaptophysin, SALL4 and PLAP. Despite being focal, the positivity for TTF1 is specific for lung adenocarcinoma. *Discussion:* Other origins of a poorly differentiated tumour in the anterior mediastinal can be varied, including thymic carcinoma, germ cell tumour, lymphoid, or thyroid origin. Immunohistochemistry staining was performed for each potential primary. The correlation between radiological findings and the staining results is crucial for an accurate diagnosis. Given that lung adenocarcinoma has specific molecular and targeted therapy, it is essential to balance the preservation of available malignant cells with the need for extensive immunohistochemistry staining.

P023 Stingless Bee Honey Effects In Kainic Acid Model Via The Regulation Of Bdnf/Trkb Pathways

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Introduction: Long-term use of antiepileptic drugs (AEDs) causes adverse effects, including metabolic, cognitive, and psychosocial difficulties. The phenolic compounds such as phenylalanine in Stingless Bee Honey (SBH) have shown beneficial effects on the brain. Minimal research on SBH's neurotherapeutic effects on Kainic acid (KA)-induced model, and its contribution to potential signalling pathways is unclear. This study will investigate the effects of SBH supplementation on the KA-induced rat model via related signalling pathways. *Materials and Methods:* A total of 18 male rats (220-300 g), approximately 2 months were divided into six groups randomly (n = 3) depending on the treatment: control (saline, 1 ml/kg), SBH only (4.6 g/kg), SBH (9.3 g/kg), KA (saline, 1 ml/kg), KA+SBH (4.6 g/kg) and KA+SBH (9.3 g/kg). KA will be administered at repeated low dose, RLD (5 mg/kg) every 30 minutes until reaches Racine scale class V. Rats were sacrificed after 28 days of SBH treatment for histo-morphological and immunohistochemistry. *Results:* The number of viable neuronal cells in Cornus Ammonis-3 (CA3) of SBH-treated group is significantly greater compared to KA only group (p=0.0072 for KA Low SBH and p<0.001 for KA High SBH). KA only group showed significantly higher BDNF expression level in CA1 and CA3 compared to the SBH-treated group (p=0.0032, KA Low SBH and p=0.0081, KA High SBH). The expression level of TrkB in CA3 of KA only group is significantly higher compared to low SBH group (p=0.0079). *Discussion:* The phenolic compounds such as phenylalanine in SBH might contribute to neurotherapeutic effects, which is crucial to combat further neuronal damage in KA-induced rats.

P024 A Case of Stillbirth with Hypercoiled Cord and Umbilical Artery Thrombosis

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Introduction: Umbilical artery thrombosis (UAT) is exceedingly rare and is associated with dismal pregnancy outcomes, including foetal growth restriction and stillbirth. Its accurate diagnosis remains a challenge ultrasonographically due to the overlapping features with single umbilical artery (SUA), often requiring histomorphological confirmation. *Case report:* We described herein a case of UAT mistaken for SUA ultrasonographically at 22 weeks of gestation, in a 22-year-old primigravida with an uneventful antenatal history. *Results:* Umbilical artery Doppler flow imaging showed SUA at presentation. No gross foetal structural anomalies were detected. A diagnosis of isolated SUA was rendered. The patient returned two weeks later with absence of foetal movement. Intrauterine foetal death was confirmed with ultrasound. She subsequently delivered a macerated stillborn female foetus. Histopathological evaluation of the placenta shows hypercoiled umbilical cord (coiling index: 0.8) with the presence of three umbilical vessels: two arteries and one vein. One of the umbilical arteries reveals an occlusive thrombus within, in keeping with an UAT. Additionally, features of foetal vascular malperfusion including avascular villi and stem villi obliteration were also seen. *Discussion:* This case highlights the diagnostic challenge of UAT prenatally, particularly when there was no previous detection of two umbilical arteries. The possibility of a trial of intravenous heparin is recommended as active management for UAT. Awareness of this rare critical clinical condition by the attending obstetricians is important to allow close monitoring and timely interventions to avert unnecessary foetal loss. From the pathologist's perspective, careful examination of the umbilical cord is crucial to confirm UAT.

P025 A Rare Case of Renal Cell Carcinoma Metastasis to the Breast

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Introduction: Renal cell carcinoma (RCC) is a malignant neoplasm that often metastasises early, commonly to the lung, lymph nodes, adrenals and brain. Metastasis to other locations such as breast is extremely rare, with only a few sporadic cases reported in the literature hitherto. *Case report:* We described herein an unusual presentation of RCC that had metastasis to the breast. *Results:* A 60-year-old woman presented with frank haematuria, of which computed tomography (CT) thorax, abdomen and pelvis revealed a contrast enhancing right renal mass with possible lung metastasis. Additionally, an incidental left breast lesion measuring 12 × 10 × 10 mm was also detected. Laparoscopic nephrectomy was subsequently performed and the diagnosis of clear cell carcinoma of the right kidney was rendered following histopathological evaluation. The breast lesion was also biopsied. Microscopically, the breast tissues were infiltrated by malignant polygonal cells arranged in sheets and nests, associated with a rich sinusoidal vascular network. Immunohistochemically, the malignant cells demonstrated CD10 immunoreactivity, while they were negative for CK7, oestrogen and progesterone receptors, which further confirmed our suspicion of a metastatic RCC to the breast. *Discussion:* This case underscores the challenges in the diagnosis of metastatic RCC in a breast. Despite primary breast carcinoma being the commonest malignancy in women, metastasis to the breast from extramammary site should be suspected in patients with previous history of other malignancies. The role of careful histomorphological examination and the judicious use of immunohistochemistry stains for such cases cannot be overemphasised.

P026 Malignant Giant Cell Tumour of Bone vs Dedifferentiated Liposarcoma: Potential diagnostic pitfalls in superficial biopsies.

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Introduction: Malignant giant cell tumour of bone (MGCTB) is a rare entity. Similar to the more common dedifferentiated liposarcoma (DDL), it shows the presence of sarcomatous area juxtaposed to a low-grade counterpart and may show positivity for MDM2. These similarities may lead to diagnostic pitfalls in superficial biopsies. *Case report:* A 58-year-old Malay man presented with a seven-year history of left arm swelling that rapidly increased in size over the past year, accompanied by sudden disabling pain. Radiographs revealed a large heterogeneous mass in the deltoid muscle, breaching the humerus cortex and extending into the medullary cavity forming lytic lesion with associated midshaft fracture. Initial biopsy is suggestive of liposarcoma, with MDM2 immunohistochemistry showing scattered strong nuclear positivity. Examination of the resected humerus led to a final diagnosis of MGCTB. *Results:* Macroscopically, the tumour is nodular with infiltrative margins. It extends from the intramedullary cavity of humerus into the subcutaneous tissue. The deeper part of the tumour is greyish with cystic spaces, abruptly transitioning to a tan, firm surface in the superficial part. Microscopic analysis shows a clear demarcation between classical GCT and sarcomatous areas exhibiting atypical mitoses. MDM2 amplification is demonstrated by FISH. *Discussion:* In large and deep-seated tumours, biopsies may not be entirely representative, which may lead to diagnostic pitfalls. Radiological and clinical correlation is especially important in such cases. While MGCTB is more significantly associated with H3.3G34W positivity, MDM2 positivity has also been reported, although its role in pathogenesis remains uncertain.

P027 A Case Report of Secretory Carcinoma Metastasis to the Lung and Literature Review

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Introduction: Secretory carcinoma (SC) was first described by Skalova et al. in 2010. It is closely resembling breast secretory carcinoma, which led to its initial designation as mammary analogue secretory carcinoma (MASC). The translocation t(12;15)(p13;q25) resulting in the ETV6-NTRK3 fusion gene is the genetic hallmark of SC. Updated in head and neck classification in the WHO 4th Edition, 2017, designated as SC. *Case report:* We reported the third documented case of SC metastasising to the lung. A 53-year-old Indonesian woman with a history of parotid tumour. She presented with a shortness of breath. A PET scan showed multiple liver and lung nodules, suggestive of metastasis. Lung biopsy revealed malignant cells with SC characteristics. Immunohistochemistry and molecular testing confirmed the diagnosis of SC. *Discussion:* SC accounts for just 0.3% of salivary gland neoplasms and is typically indolent, classified as a low-grade malignancy. The recurrence rate is about 15%, nodal involvement is 7.9%, and distant metastasis occurs in 8% of cases, with lung metastasis less than 1%. Morphological overlapping with other salivary neoplasms. Co-expression of S100, GATA-3 or Mammaglobin and Pan-TRK may assist in making diagnosis. Molecular study is useful for targeted therapy. *Conclusion:* This case highlights the diagnostic challenges of SC, emphasising the need for comprehensive clinical history, imaging, histopathology, immunohistochemistry, and molecular testing for an accurate diagnosis.

P028 Unveiling the Enigmatic: Histopathological and Immunohistochemical Profile of Conjunctival Stromal Tumour (COST)

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Introduction: Conjunctival stromal tumour (COST) is a rare, benign mesenchymal neoplasm characterised by spindle-shaped cells containing pseudonuclear inclusions and multinucleate cells, set within a variably myxoid stroma with wiry, non-compact collagen. Typically, COST presents as a slow-growing, asymptomatic mass primarily on the bulbar conjunctiva and occasionally on the palpebral conjunctiva and eyelid margin. *Case Report:* A 41-year-old gentleman without comorbidities presented with a left conjunctival mass causing discomfort over three months, though it was painless and did not impair visual acuity. An incisional biopsy of the mass was sent for histopathological examination (HPE). *Results:* Microscopically, the tumour is composed of fibrous tissue with scattered vascular channels and varying myxoid and collagenous stroma infiltrated by loosely arranged spindle-shaped cells. Pseudonuclear inclusions and multinucleation were noted, along with Alcian blue-positive substances and collagen fibrils in the stroma. Immunohistochemical analysis showed CD34 and vimentin positivity in the spindle cells, while S100, SMA, and CKAE1/AE3 were negative. The Ki67 proliferative index was less than 1%. *Discussion:* COST is distinguished from other conjunctival spindle cell lesions by its positivity towards CD34 and vimentin in the background of the myxoid stroma. It can affect individuals of all ages and may recur if not completely excised. Surgical excision is effective, with no cases of malignancy or metastasis reported. Accurate diagnosis requires recognising characteristic morphology and applying immunohistochemical profiling, which is crucial for avoiding overdiagnosis and unnecessary treatments. Including COST in the differential diagnosis of benign bulbar conjunctival lesions is essential.

P029 Uncommon Presentations of Large-Cell Neuroendocrine Carcinoma in the Trachea and Mediastinum: A Case Series Highlighting Diagnostic and Therapeutic Challenges

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Introduction: Large-cell neuroendocrine carcinoma (LCNEC) is a rare and aggressive lung cancer, representing 2–2.5% of resected primary lung cancers. In the trachea and mediastinum, it is infrequently observed. The diagnosis is contingent upon identifying neuroendocrine morphology, including rosettes and peripheral palisading, and neuroendocrine markers such as chromogranin A, synaptophysin, or CD56. *Case Series:* Case 1: A 47-year-old gentleman, ex-smoker with superior vena cava obstruction (SVCO), had a mediastinal mass (12 × 10 × 6 cm) compressing the trachea and right main bronchus. Intraoperatively, the tracheal mucosa was irregular and hypervascular with stenosis. Case 2: A 66-year-old gentleman, an active smoker with SVCO, had a right mediastinal mass (12.4 × 9.9 × 8.7 cm) compressing major veins. *Results:* Biopsies from both cases showed malignant cells in diffuse sheets and clusters with high mitotic activity. Immunohistochemistry was positive for chromogranin and synaptophysin. The tracheal biopsy showed focal CD56 positivity and a high proliferative index (80%). Both were negative for TTF1. *Discussion:* LCNEC is a rare, aggressive neuroendocrine tumour with poor prognosis and high metastatic potential. Its behaviour resembles small-cell lung carcinoma (SCLC) more than non-small-cell lung carcinomas (NSCLCs), complicating treatment. Early-stage LCNEC patients benefit from surgical resection and adjuvant chemotherapy, particularly etoposide-based regimens. Tumours larger than 3 cm have a higher recurrence risk, necessitating adjuvant chemotherapy even without nodal involvement. Including combined LCNEC (C-LCNEC) introduces diagnostic and therapeutic challenges. Molecular subtyping based on TP53, RB1, KRAS, and STK11/LKB1 mutations guides personalised treatment strategies.

P030 Alveolar Rhabdomyosarcoma of the Endometrium in an Elderly Woman: Histopathological and Molecular Insights into a Rare Uterine Malignancy

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Introduction: Alveolar rhabdomyosarcoma (ARMS) of the endometrium is a notably rare and aggressive malignancy predominantly affecting adolescents and young adults. Its occurrence in the uterus is exceptionally unusual, as rhabdomyosarcoma typically manifests in the vagina and cervix. *Case Report:* A 71-year-old lady with a history of uterine submucosal leiomyoma presented with a substantial pelvic mass and an abnormal Pap smear. Hysteroscopy performed due to previous atypical pap smear results revealed a thickened endometrial lining. Endometrial curettage was conducted, and whitish fleshy tissue from the right lateral wall was submitted for histopathological examination. *Results:* Histopathological analysis of the curettage specimen demonstrated highly pleomorphic tumour cells arranged in sheets and alveolar patterns, interspersed with rhabdomyoblasts and multinucleated cells. Immunohistochemistry revealed strong desmin positivity and patchy positivity for myogenin, MyoD1, and CD10, with negative results for SMA, ER, and epithelial markers. INI1 staining was retained. *Discussion:* ARMS is frequently associated with chromosomal translocations t(2;13) or t(1;13), resulting in PAX3-FOXO1 or PAX7-FOXO1 fusion genes. These genetic alterations are linked to increased metastasis and poorer prognosis. Accurate

differentiation from other sarcomas and biphasic malignancies necessitates thorough sampling, immunohistochemical staining for skeletal muscle markers, and molecular techniques such as FISH to identify specific genetic abnormalities. Adult primary uterine rhabdomyosarcomas, including ARMS, often exhibit pathogenic TP53 mutations and high genomic instability, making differentiation from uterine carcinosarcomas challenging. The poor survival rate associated with uterine ARMS, particularly in elderly patients, underscores the importance of early, precise diagnosis and aggressive management strategies.

P031 Diagnostic Challenges and Pathological Insights in Pelvic Solitary Fibrous Tumour

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Introduction: Solitary fibrous tumours (SFTs) are mesenchymal neoplasms of fibroblastic origin, commonly seen in relation to the thorax. Presentation within the abdominopelvic region poses significant diagnostic challenges due to the prevalence of other more common mesenchymal tumours in this region, such as dedifferentiated liposarcomas, leiomyosarcomas, and malignant peripheral nerve sheath tumours. SFTs generally grow slowly and can achieve substantial size before being diagnosed. *Case Report:* A 21-year-old female presented with a large (230 × 170 × 75 mm) irregular solid-cystic mass located in the right broad ligament. *Results:* Microscopic examination revealed a partially encapsulated, well-circumscribed mass composed of hypo- and hypercellular spindle cells within varying amounts of collagenous stroma, intervened by branching vascular channels. In view of the challenging location, a battery of immunohistochemistry was performed to rule out several possible differential diagnoses. The immunohistochemistry revealed diffuse positivity for CD34, STAT6, BCL2, and Progesterone Receptor (PR). The tumour was negative for CD10, Cyclin D1, oestrogen receptor (ER), CKAE1/AE3, EMA, Desmin, SMA, S100, Caldesmon, HMB-45, Melan A, Calretinin, and Inhibin. The Ki-67 index was low (<4%), and risk stratification indicated intermediate risk. *Discussion:* SFTs are distinguished by ovoid to spindle-shaped cells and hemangiopericytoma-like vessels. CD34 and STAT6 are essential markers for diagnosing SFTs, with the NAB2-STAT6 gene fusion serving as a hallmark indicator. Due to clinical variability, additional factors such as age, tumour size, and mitotic index are crucial for accurate risk assessment. Emerging RNA-targeting therapies, including antisense oligonucleotides and CRISPR/CasRx, offer promising strategies targeting NAB2-STAT6 fusion transcripts to inhibit tumour growth.

P032 Tumour-to-tumour metastasis: A case of lung adenocarcinoma metastasising to primary thyroid carcinoma

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Introduction: Metastasis to the thyroid gland is a rare incidence. Tumour-to-tumour metastasis, especially metastatic lung cancer involving a thyroid neoplasm serving as recipient is even rarer. Herein, we report a case of metastatic lung adenocarcinoma to a primary thyroid carcinoma. *Case report:* A 64-year-old woman presented with prolonged fever associated with constitutional symptoms. Imaging revealed left thyroid mass and left lung mass with bilateral lung metastasis. At that time, lung biopsy is not feasible due to centrally located and deep seated. The patient underwent left hemithyroidectomy by surgical team. *Results:* The hemithyroidectomy specimen shows an encapsulated solid cystic lesion measuring 45 × 35 × 39 mm with tan-coloured surface. Multiple small foci of whitish area measuring 5-10 mm are also observed. The final histopathologic evaluation was reported as metastatic lung adenocarcinoma within a minimally invasive follicular carcinoma with capsular invasion. An insertion mutation in exon 20 of EGFR has been detected on molecular study. The patient completed radiotherapy and was given chemotherapy at a private hospital, but unfortunately succumbed to death due to multiple medical complications. *Discussion:* Tumour-to-tumour metastasis should be taken into account whenever a distinct dimorphic pattern is encountered in a thyroid tumour. As in the present case, the clinical history of a possible second primary tumour, the dimorphic histologic appearance, immunohistochemistry and molecular study are very helpful in arriving at a correct diagnosis.

P033 Programmed Death-Ligand 1 (PD-L1) in Endometrial Carcinomas: A Good Prognostic Indicator

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Introduction: Endometrial carcinoma represents a prevalent form of gynaecological malignancy and is the leading cause of morbidity and mortality globally. While PD-L1 immunopositivity has emerged as a good prognostic biomarker in various malignancies including colorectal cancer and lung cancer, its role in endometrial carcinoma remains elusive. This study aims to evaluate the prognostic significance of PD-L1 immunoexpression in endometrial carcinoma and its correlation with clinicopathological parameters. *Materials and Methods:* A retrospective study was conducted on all endometrial carcinoma cases presented to our institution from January 2014 to December 2018. Immunohistochemistry stain for PD-L1 (clone 22C3) was performed, and expression levels were correlated with clinicopathological parameters including tumour stage, grade and

survival outcomes. PD-L1 immunoexpression was evaluated using combined positive score (CPS), with CPS ≥ 1 as positive. *Result:* A total of 104 endometrial carcinomas was included, with 76.92% (n=80) endometrioid carcinoma 12.50% (n=13) serous carcinoma, 3.85% (n=4) clear cell carcinoma and other histological subtypes (6.73%, n=7). PD-L1 was expressed in 17.3% (n=18) of endometrial carcinoma cases. PD-L1 immunopositivity was found not significantly associated with tumour stage, grade and histological subtypes. Kaplan-Meier survival analysis revealed that PD-L1 immunoexpression had a significantly better overall 5-year survival compared to those with PD-L1 immunonegativity (p = 0.035). *Conclusion:* PD-L1 immunoexpression in endometrial carcinoma indicates its potential utility in stratifying patients for prognostic assessment and tailored immunotherapeutic approaches. Further prospective studies and clinical trials are warranted to validate these results and explore the therapeutic implications of PD-L1 targeting in endometrial carcinoma.

P034 Pathological Insights into Epithelioid Angiosarcoma: A Case Report

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Introduction: Bone angiosarcoma is a rare malignancy, comprising less than 1% of malignant bone tumours. While it can present across a broad age spectrum, it predominantly affects older individuals and has a slight male predominance. It can pose as a diagnostic challenge, especially due to its wide range of morphological and immunohistochemical features. *Case report:* We present a case of a 31 years old Malay male, with multiple scalp swelling for 3 months associated with headache. He had no seizures and no similar swelling elsewhere. Imaging showed large predominant skull-based lesion with posterior extension across midline, adjacent dural thickening/involvement and intraparenchymal extension in right parietal lobe. We received biopsy from the scalp tumour, bone/skull and intracranial tumour. *Results:* Microscopically, the scalp tumour is highly cellular composed of epithelioid cells arranged in sheets, some in nests and fascicular pattern exhibiting pleomorphic vesicular nuclei, prominent nucleoli, moderate eosinophilic cytoplasm and inconspicuous cell outline. Irregular vascular spaces lined by protuberant epithelioid cells with brisk mitoses with necrosis are observed. The neoplastic epithelioid cells expressed vascular marker (CD31, FLI - 1, D2-40) with co-expression of CK AE1/AE3 and vimentin. *Discussion:* This case highlights the complex pathological features of epithelioid angiosarcoma and the importance of comprehensive immunohistochemical profiling in enhancing the diagnostic framework for this rare tumour.

P035 A rare case of Gut-Associated Lymphoid Tissue (GALT) Carcinoma/ Dome Type Carcinoma

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Introduction: Gut-associated lymphoid tissue (GALT) carcinoma or dome-type carcinoma has been recognised as a rare and distinctive form of colorectal cancer (CRC). Fewer than thirty cases have been reported in the literature. It has distinct clinicopathologic features. *Case report:* A 56-year-old male presented with rectal bleeding. Colonoscopic examination revealed two benign-looking pedunculated polyps, each situated at the ascending and sigmoid colon with the later having an umbilicated centre. No prior radiological study was performed. *Results:* Histological evaluation of the sigmoid colon polyp showed malignant cells within the polyp's core, arranged in cribriform, papillary and cystically dilated glands containing eosinophilic material. Multiple deeper sections confirmed the malignant glands were not in continuity with the surface epithelium. The polyp's surface epithelium is non-neoplastic and shows focal surface ulceration. Immunohistochemical study supports colon primary and the imaging study performed later revealed no other primary or metastasis. *Discussion:* Most CRCs evolve from the surface epithelium through adenoma-carcinoma or the serrated pathway. GALT carcinoma arises from the GALT mucosal domain. It is usually discovered incidentally during endoscopy with a distinct characteristic of plaque- or dome-like appearance. Histologically, it is characterised by cystically dilated neoplastic glands which extend into prominent lymphoid tissue within the submucosa. None of the reported cases documented any metastases as seen in our case, which suggests that this tumour type may have a favourable prognosis. Under-diagnosis due to the lack of recognition contributes partly to its rarity, hence raising awareness about its existence is crucial.

P036 Anaplastic Lymphoma Kinase (ALK)-Positive Histiocytosis: A Rare Case of Extraconal Orbital Mass.

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Introduction: Anaplastic Lymphoma Kinase (ALK)-positive histiocytosis is a rare histiocytic neoplasm characterised by the clonal neoplastic accumulation of histiocytes harbouring ALK gene rearrangements. This entity is notable for its rarity and diverse clinical manifestations. We report a unique case of ALK-positive histiocytosis presenting as an isolated extraconal orbital mass, representing the first documented instance of this entity in the intra-orbital region. *Case Report:* A 28-year-old male presented with acute onset of diplopia and blurred vision, accompanied by right eye ptosis for one month. CT imaging revealed a right superotemporal extraconal mass exerting pressure on the globe. *Result:* The excision biopsy revealed a well-

circumscribed lesion consisting of sheets of histiocytic infiltrate. The histiocytes displayed a mixture of foamy and spindle cell morphology. These cells had regular nuclear membranes, open chromatin, prominent nucleoli, and abundant eosinophilic cytoplasm, with some cells exhibiting a foamy appearance. The background was composed of a dense inflammatory infiltrate, including small lymphocytes, plasma cells and eosinophils. Immunohistochemical staining demonstrated ALK-1 and CD68 positivity. *Discussion:* ALK-positive histiocytosis poses diagnostic challenges due to its rarity and overlapping features with other entities. Initially perceived as a self-limiting systemic disease in infancy, it is now recognised across a broader clinical spectrum. A high clinical and pathological suspicion coupled with comprehensive immunohistochemical analysis is crucial for accurate diagnosis. This report expands the known spectrum of ALK-histiocytosis.

P037 Disseminated *Mycobacterium abscessus* infection in a patient with diabetes mellitus and renal failure: Clinical and histopathological correlation.

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Introduction: Non-tuberculous Mycobacterial (NTM) infection is an emerging disease, in need of more data. Aim: To describe the clinical and histopathological characteristics of a patient with *Mycobacterium abscessus (M. abscessus)* infection. *Materials and Methods:* Case study method was applied with focus on clinical and histopathological details. *Results:* A 61-year-old lady, presented with a 3-week history of erythematous nodules over her limbs, spreading along lymphatic lines. The nodules ruptured and ulcerated 1 week before presentation. She had diabetes mellitus, hypertension, and end-stage renal failure on haemodialysis. Multiple painless, fluctuant, erythematous nodules were observed over her left wrist and knuckle. There were no palpable lymph nodes, and the lungs were clear. A blood culture from a dialysis catheter grew *M. abscessus*, but several others exhibited no growth. Tissue TB-Genexpert was negative. Tissue C&S for MTB, NTM, and fungal organism all showed no growth. Blood was sent again for NTM culture which grew *M. abscessus*, sensitive to amikacin but resistant to all other tested antibiotics. A biopsy of the lesion was performed. Histopathological examination showed necrotising cavitating lesion with a thin layer of granuloma at the edges. Ziehl-Neelsen stain was positive for acid-fast bacilli, which was short stranded and beaded. The patient was subsequently diagnosed with disseminated *M. abscessus* complex with cutaneous manifestation. *Discussion: M. abscessus* is a rapid-growing NTM, with tendency for antibiotic resistance. Disseminated disease is rare except in AIDS patients. This case demonstrates that fulminant infection can occur in other immunocompromised conditions. It adds to the current body of knowledge on this unusual condition.

P038 Left Atrial Myxoma With Osseous Metaplasia In A 36-Year-Old Woman

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Introduction: Myxomas are the most common primary cardiac tumours and up to 80% are located in the left atrium. These are generally small to moderate in size at the time of diagnosis presenting with non-specific symptoms. We describe here an exceedingly rare left atrial myxoma with microscopic features of osseous metaplasia. *Case report:* This is case of a 36-year-old woman where 6 months prior to admission, she experienced dyspnea and chest pain but no consult was done. 2 months prior to admission, she noticed intense severity of chest heaviness and palpitations hence brought to a hospital where 2DED showed a 4.28 × 3.48 cm atrial myxoma. She sought consult in our institution for surgery. *Results:* The specimen is a tan-cream lobulated, gelatinous tissue measuring 7 × 5 × 2.5 cm. Microscopy shows moderately cellular neoplasm of polygonal to stellate cells in clusters with ovoid nuclei, inconspicuous nucleoli, and eosinophilic cytoplasm in fibromyxoid stroma. Few areas of osseous metaplasia are appreciated with mature bone trabeculae and vague lacunae. *Discussion:* Osseous metaplasia is a phenomenon known to occur in neoplastic and non-neoplastic lesions but is extremely rare in myxomas. It most likely occurs by osteoblasts differentiating from fibroblasts secondary to inflammation, tissue damage, or substances such as bone morphogenetic proteins from neoplastic cells or could be caused by dystrophic calcification. The number of reported cases is inadequate to confirm the pathogenesis and its clinical significance.

P039 Paediatric GLI1-Altered Mesenchymal Tumours: Rare Occurrence and Uncertain Biological Potential

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Introduction: GLI1-altered mesenchymal tumour represent a rare and emerging group of soft tissue neoplasms with a diverse range of clinicopathologic features, characterised by GLI1 gene alterations. Initially described in benign myopericytic tumours

with ACTB gene as fusion partner, this entity has been increasingly encountered, involving a larger spectrum of fusion partner genes. More recently, tumour with GLI1 amplification has also been described. We report a case of a recurrent GLI1-altered mesenchymal tumour in a toddler, located at an acral site, highlighting the unpredictable biological behaviour and significant clinical challenges in this emerging entity. *Case Report:* A 3-year-old girl presented with recurrent painless=mass at right foot, in between the first and second toe's web space. Ultrasonography revealed an infiltrative lesion with minimal vascularity. The patient underwent marginal resections for each recurrence. Microscopically, the tumour shows lobulated growth with myxoid stroma and thick fibrocollagenous septae. The tumour displayed a biphasic population of spindle and epithelioid cells, with 11 mitoses per 10 high-power fields. Immunohistochemical staining demonstrated positivity for CD56 and cyclin D1, with weak positivity for EMA, CD99, and SATB2. Molecular testing revealed amplifications of GLI1 and CDK4. *Discussion:* The biological potential of this tumour remains uncertain. Some cases exhibit malignant behaviour with metastasis to the brain, lungs, and bone, while others follow an indolent course. High mitotic rates may suggest aggressive behaviour, but metastasis can occur even in tumours with low mitotic rates. No specific genetic alteration has been clearly linked to prognosis, highlighting the unpredictable nature of these tumours.

P040 The first encounter: The Sarawakian Triplets.

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Introduction: Adenoid cystic carcinoma (AdCC) of the breast, while rare, concomitant with axillary nodal Nodular lymphocyte predominant Hodgkin lymphoma (NLPHL) and lung adenocarcinoma is unreported thus far in the medical literature. Here, we are reporting this novel incident. *Case presentation:* A 79-year-old Bidayuh lady with no notable medical history presented with a left breast lump for two-week duration. An ultrasound of the breast revealed a potentially malignant BIRADS V mass, along with bilateral axillary lymphadenopathy. The initial trucut biopsy verified that it was an invasive carcinoma. She subsequently underwent a left mastectomy and axillary clearance. The postoperative CECT TAP study identified a solitary, solid, enhancing lung nodule in the lower lobe measuring 2.5cm, which was subsequently biopsied. *Results:* The breast tumour is composed of neoplastic cells arranged in cribriform, solid, tubular and trabecular architectural patterns. They consist of a dual population of cells, namely the luminal epithelial cells (CK7+ and c-kit+) and myoepithelial cells (p63+ and S100+). Two types of luminal formation can be recognised, true glandular and pseudoluminal. There is no area of high-grade transformation. The tumour displays triple-negative hormone status. All 25 axillary lymph nodes are negative for metastatic carcinoma. However, they exhibit total effacement of the nodal architecture. There are scattered, singly distributed, large, atypical lymphoid cells displaying contoured nuclei, coarse chromatin, prominent nucleoli and a rim of cytoplasm. These lymphoid cells express several B-cell markers (CD20, CD79a, PAX5, OCT2, BOB1). CD3+ T lymphocytes are seen resetting these atypical lymphoid cells. The transbronchial biopsy of the lower lobe lung nodule shows adenocarcinoma characterised by infiltration of the malignant cells arranged in irregular glands accompanied by prominent desmoplastic stromal reaction. These cells are positive for TTF1 (diffuse and strong), while they are negative for GATA3 and c-kit. The EGFR mutational analysis further identified an Exon 19 deletion. *Discussion:* Assessment of lymph nodes for the staging of a primary tumour should not be limited to searching for metastatic status. A high index of suspicion should be reserved once the deviation from normal nodal architecture is observed. In this case, the unexpected second pathology requires more aggressive treatment than the otherwise indolent breast adenoid cystic carcinoma. On top of that, a lung nodule in a known underlying malignancy should not simply be thought to be metastatic in origin. Adjunct immunohistochemistry needs to be considered in confirmation of the origin, especially if the underlying malignancy is a low-grade tumour with a rare metastatic rate like in this case.

P041 Metastatic Hepatocellular Carcinoma To The Mandible: A Report Of 2 Cases

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Introduction: Metastatic tumours to the oral cavity are uncommon, accounting for only around 1% of oral malignancies. In 1 out of 4 cases, the oral lesions were detected prior to the primary tumours. Common primary origins of jaw metastases including lung in men and breast in women. Hepatocellular carcinoma (HCC) rarely metastasises to the oral cavity. *Case report:* We report 2 cases of metastatic HCC to the mandible as the first presentation of the disease: both patients were male, aged 73 (case 1) and 53 (case 2). The patient in case 2 is hepatitis C positive with known liver cirrhosis. Both patients presented with intraoral swelling involving the right posterior mandibular region. Imaging studies for case 1 show extensive mandibular bone destruction from the right ramus to body of mandible while case 2 shows bony erosions with enhancing soft tissue components involving the right mandibular ramus. CT findings of a large adrenal mass with liver lesions in case 2 was suggestive of adrenocortical carcinoma with liver and bone metastases. *Results:* Histopathological features show atypical tumour cells with eosinophilic cytoplasm and abundant extracellular bile pigments. In both cases, the tumour cells are positive to CAM 5.2 and HSA; negative to CK7 and CK20. Glypican 3 is positive in case 2. *Discussion:* Although rare, metastatic tumours to the oral cavity need to be included in the differential diagnoses of oral malignancies. In cases where the primary tumour is unknown, immunohistochemical testing is a helpful tool in determining the tumour origin.