Methods: Retrospective clinical data was collected from RPAH databases. The histopathological diagnoses of biopsy slides were determined by slide review by 2–3 independent assessors according to the Banff criteria and previous biopsy reports. Data was analysed using IBM SPSS version 24.

Results and conclusion: The most common indications for LT in the patient cohort ($n=77$) were alcoholic cirrhosis (26/120, 22%) and hepatitis C virus (23/120, 19%). 39% of patients ($n=77$) underwent at least one biopsy within 12-months post-LT with a total of 41 biopsies. Biopsy outcomes ($n=41$) were TCMR (76%), hepatitis C virus (7%) and cholestatic hepatitis (7%). Mean reduction (95% confidence interval) of ALT, GGT and ALP at 5±1 week post-biopsy in cases of TCMR ($n=29$) were 251 (138–363), 186 (82–290) and 182 (90–274) with p -values of <0.001, 0.001 and <0.001, respectively. In 15 (45%, $n=31$) cases of TCMR, patients received intravenous (IV) methylprednisone pulsing following biopsy, 93% ($n=15$) of which had moderate or severe TCMR. The significant reduction in LFTs post-biopsy and management with IV methylprednisolone following biopsy-confirmed TCMR suggest liver biopsies may play a key role in the diagnosis and management of TCMR.

41. BANFF GLOBAL ASSESSMENT AND REJECTION ACTIVITY INDEX SEVERITY GRADING CRITERIA FOR T-CELL MEDIATED REJECTION (TCMR) IN LIVER TRANSPLANTATION ARE STRONGLY CORRELATED

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Background: TCMR is a common cause of graft dysfunction in liver transplantation (LT). Histologically it is characterised by portal inflammation (PI), bile duct damage (BDD) and venous endothelial inflammation (VEI). The Banff Working Group has defined Global Assessment criteria (mild, moderate and severe) and a rejection activity index (RAI), which semi-quantitatively defines a score of 1 to 3 for each component of TCMR (PI, BDD and VEI) to diagnose and assess the severity of TCMR in LT centres.

Aims: (1) Grade the severity of TCMR using Banff Global Assessment and RAI criteria in a cohort of 77 adult patients at RPAH who underwent LT; (2) investigate the relationship between the global assessment and each of the RAI components of the Banff criteria.

Methods: Retrospective clinical data for patients who underwent LT in 2015 was collected from RPAH databases. Biopsy slides were graded under the microscope by 2–3 independent assessors according to the Banff criteria for Global Assessment and each component of the RAI. Total RAI was calculated by the sum of RAI values for PI, BDD and VEI. Data was analysed using IBM SPSS version 24.

Results and conclusion: 30 (39%, $n=77$) patients in our cohort underwent at least one biopsy within 12-months post-LT. TCMR was diagnosed in 31 (76%, $n=41$) of biopsies. Banff Global Assessment was positively correlated with RAI for PI ($r=0.757$, p -value <0.001), BDD ($r=0.626$, p -value <0.001), VEI ($r=0.845$, p -value <0.001), and total RAI ($r=0.900$, p -value <0.001). Thus, we identified for the first time that biopsy grading according to the Banff criteria for Global Assessment and RAI scoring for

TCMR are strongly correlated. This correlation is strongest between Global Assessment and total RAI and VEI, respectively. Further studies to correlate these results with outcome data such as graft survival are required.

42. THE DANGERS OF HERBAL WEIGHT LOSS SUPPLEMENTS: A CASE REPORT OF DRUG-INDUCED LIVER INJURY SECONDARY TO GARCINIA CAMBOGIA INGESTION AND LITERATURE REVIEW

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Background: Drug-induced liver injury (DILI) should be suspected in patients presenting with unexplained liver disease. Recent data from the US Drug Induced Liver Injury Network reports 16% of acute liver failure cases are causally related to dietary supplements. Up to 50% of the Australian adult population take dietary supplements. *G. cambogia* (hydroxycitric acid), an extract of fruit peel, is a commercially available over-the-counter weight loss supplement implicated in causing acute liver injury in recent case reports.

Aims and methods: We present a case of a 54-year-old woman presenting with acute liver failure requiring transplantation after consuming *G. cambogia* for 2 months. Clinical notes and serological findings were reviewed to establish causality. Formalin-fixed paraffin-embedded representative sections of the explanted liver were stained with haematoxylin and eosin as well as routine special stains. A literature review using PubMed was performed to identify similar cases.

Results and conclusions: The liver showed submassive necrosis. No evidence of underlying chronic liver disease was identified. No other cause for the liver injury was identified on clinical assessment, serology or special stains. The findings were consistent with DILI secondary to *G. cambogia* in view of the temporal correlation with the supplement ingestion. A review of the literature found 34 published case reports of *G. cambogia* implicated liver injury, with 6 cases requiring liver transplantation. Although rare, our case highlights the risks of herbal supplementation. Health professionals should ensure to question patients presenting with unexplained deranged liver function tests or acute liver failure about dietary supplement usage to aid accurate clinical management.

43. AN UNUSUAL CASE OF CYSTIC LUNG DISEASE WITH RECURRENT PNEUMOTHORACES

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Background: Recurrent pneumothorax is a common clinical problem. When it is associated with pulmonary cystic lesions radiologically, it might be biopsied to clarify the underlying aetiology.

Aims and method: We presented a 67-year-old lady with progressive dyspnoea, recurrent pneumothoraces and bilateral

pulmonary cystic lesions which have been stable in size radiologically. The only past surgical history was a hysterectomy which was performed for menorrhagia 16 years before this presentation. Since then she had a lung biopsy reported as congenital cysts or large foci of paraseptal emphysema. Given the cause of the underlying cystic lung disease being unclear and her clinical deterioration with multiple pneumothoraces and dyspnoea, once more a VATS-guided lung biopsy was performed to establish a tissue diagnosis.

Results and conclusions: This biopsy showed patchy interstitial fibrosis with many cystic spaces distributed throughout the lung, some of which had a thickened and expanded wall. These thick-walled spaces were due to proliferation of small ovoid cells with scanty clear cytoplasm and bland ovoid nuclei lacking pleomorphism or atypia. On immunohistochemical studies, these bland ovoid cells were positive for oestrogen and progesterone receptors, as well as Vimentin, CD10 and WT1, all in keeping with a metastatic low grade endometrial stromal sarcoma (LGESS). Further searching her medical records revealed that her past hysterectomy was due to a uterine low grade endometrial stromal sarcoma and she was on Provera (medroxyprogesterone) for 8 years which was discontinued subsequently. We also considered and ruled out other differential diagnoses such as benign metastasising leiomyoma, pulmonary lymphangioleiomyomatosis (PLAM) and meningotheliomatosis. Her previous lung biopsy was also reviewed showing similar changes to the current biopsy. Endometrial stromal sarcoma (ESS) is a very rare malignant tumour and our case showed a challenging diagnosis of metastasising LGESS to lung, missing of which can have a detrimental effect on patient's management.

44. DUAL EXPRESSION OF P40 AND TTF-1 IN NON-SMALL CELL CARCINOMA OF THE LUNG – A CASE SERIES

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Background: The 2015 WHO Classification of Lung Tumours advocates for minimal use of the diagnosis 'non-small cell carcinoma, not otherwise specified' (NSCC, NOS) on small biopsy or cytology samples. They cite that the use of immunohistochemical markers such as TTF-1 and p40 can provide a more specific diagnosis in up to 90% of cases. A diagnosis favouring adenocarcinoma triggers further testing for mutations which may provide the patient access to specific targeted therapies. In the presence of dual expression of p40 and TTF-1 within the same tumour cells, the WHO recommend classification as NSCC, favour adenocarcinoma.

Aims: Our study describes three cases of NSCC of the lung for which there was dual expression of p40 and TTF-1 in the same tumour cells with features of squamous cell carcinoma (SCC).

Methods: The H&E slides, immunohistochemistry and ancillary tests for each case were reviewed by multiple pathologists and a consensus diagnosis made.

Results and conclusions: The three cases were small biopsies of lung, two of which went on to have complete tumour resection. They had varying degrees of morphological and cytological features of SCC. All showed strong expression of both p40 and TTF-1 in the same tumour cells. Molecular testing found all three tumours to be negative for EGFR mutation. Only one of the tumours was given a final diagnosis of SCC after the resection

showed unequivocal squamous differentiation. The other two tumours were classified as 'poorly differentiated primary lung carcinoma', highlighting the diagnostic dilemma this phenomenon poses.

It is important that pathologists are aware of the possibility of positive TTF-1 staining in SCC of the lung. While there are no current targeted therapies for the common mutations found in these tumours, erroneous diagnosis by sub-typing may preclude patients from targeted treatments in the future.

Reference

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45. A RETROSPECTIVE ASSESSMENT OF PD-L1 EXPRESSION RATES IN NSCLC

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Background: Programmed death-ligand 1 (PD-L1) expression on tumour cells is a predictor of response to immune checkpoint inhibitors used to treat advanced non-small cell lung cancer (NSCLC). High PD-L1 expression is required for patients to receive first-line pembrolizumab monotherapy. Assessing expected PD-L1 expression rates in real-world specimens is an important factor in ensuring patients access the most effective treatments.

Aims: To review the local prevalence of PD-L1 expression in NSCLC and compare different specimen types.

Methods: We retrospectively reviewed NSCLC stained with PD-L1 IHC Ventana SP263 assay from January 2017-February 2019.

Results: PD-L1 expression was assessed in 144 cases of NSCLC during the 50 month period. Median patient age was 69 years and 65% were male. Histologically, 78% were adenocarcinoma, 14% squamous-cell carcinoma and 8% unspecified-NSCLC. Overall 33% of NSCLC showed high PD-L1 expression ($\geq 50\%$), 41% low (1–49%), and 26% no expression ($<1\%$).

Histology samples accounted for 78% of cases and 22% were cytology. Lung resections accounted for 19%. 57% were primary tumours and 43% metastases. A PD-L1 TPS of $\geq 50\%$ was seen in 26% of histology and 7% of cytology specimens. Amongst lung resections, high PD-L1 was observed in 25% of cases compared to 34% in other specimen types. In primary tumours, high PD-L1 was seen in 27% of cases compared to 40% in metastases.

Conclusions: Our overall prevalence of PD-L1 expression is in keeping with rates demonstrated in a large clinical trial investigating the efficacy of pembrolizumab first-line treatment in NSCLC. Due to the relatively small sample size in our study, further ongoing analysis of different specimen types is required.

46. CLASSIC HISTOLOGICAL FEATURES OF GAUCHER DISEASE: A CASE REPORT

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