

three times a year for EUS network meetings to audit outcomes and review practice standards.

In 3 of the 4 centres cytopathology staff are present in the endoscopy room to provide rapid on site evaluation and confirm adequate sample cellularity and give a preliminary diagnosis.

Methods Each centre prospectively audited the results of EUS guided biopsy of suspected malignant solid pancreatic lesions over a 6 month period from 1.7.13 to 31.12.13. From this data the true positive rate was calculated to determine if such networking produced results comparable to large volume single centres.

Results There was a regional sensitivity of 96%. The majority of lesions were adenocarcinoma but other results included: 1 lymphoma, 8 neuroendocrine tumours, 1 renal cell cancer metastasis.

Conclusion A regional sensitivity of 96% is comparable with results from a single large volume UK EUS centre. This demonstrates that smaller volume centres working within a regional network can achieve similar standards to high volume centres.

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Disclosure of Interest None Declared.

PTH-097 HOW COMMON IS PANCREATIC EXOCRINE INSUFFICIENCY IN SECONDARY CARE GASTROENTEROLOGY CLINICS? A DUAL CENTRE STUDY

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Introduction Post-mortem studies suggest that chronic pancreatitis is present in 6–12% of the population, yet the diagnosis of chronic pancreatitis is infrequent. We hypothesised that previously undetected pancreatic exocrine insufficiency is seen in unselected patients referred to secondary care gastroenterology clinics.

Methods A multicentre retrospective analysis of all gastroenterology patients tested for faecal elastase (FEL-1) between 2009–13 was performed. In Sheffield and Middlesbrough a FEL-1 <200 µg/g was defined as abnormal. Demographics, indication, co-morbidities and response to enzyme supplementation were recorded. Additionally, the findings of abdominal imaging were recorded. Prevalence of low FEL-1 was compared between the two centres (Fishers exact test). Binary logistic regression was used to determine if comorbidities could predict pancreatic insufficiency.

Results 1887 patients (mean age 51.6, SD 16.91, 1144 females) were included. Sheffield's group contained 1350 patients (mean age 49.1, SD 16.37, 857 females), and Middlesbrough's 537 (mean age 57.9, SD 16.60, 287 female).

The most common indication to test FEL-1 was diarrhoea (n = 1252), followed by abdominal pain (n = 378) and weight loss (n = 125).

The overall prevalence of low FEL-1 was 11.4% (Sheffield 11.0% vs. Middlesbrough 22.9% p < 0.0001). 13.7% (n = 171/1252) of patients with diarrhoea as the predominant symptom had FEL-1 <200. Of those with abdominal pain and weight loss 12.4% (n = 47/378) and 27.2% (n = 35/125) had low FEL-1 respectively.

86.8% (n = 236) of patients with low FEL-1 had abdominal imaging, (MRI, CT or US). 50% of imaging was normal (n =

136), 33.1% (n = 90) demonstrated pancreatic pathology consistent with either chronic pancreatitis or malignancy.

Binary logistical regression showed FEL-1 <200 was strongly associated with excess alcohol intake, diabetes mellitus, intrinsic pancreatic disease (malignant or non-malignant) and HIV infection (p < 0.0001).

79% (n = 128) of patients treated with pancreatic enzyme supplementation subjectively reported benefit from therapy. 12.3% (n = 20) had no benefit and in 8.6% (n = 14) it was not possible to assess benefit from medical records.

Conclusion This is the largest study to report detection of exocrine pancreatic disease in unselected gastroenterology clinics. Exocrine pancreatic insufficiency is strongly associated with diabetes mellitus, intrinsic pancreatic disease, high alcohol intake and HIV. Creon provides symptomatic benefit for those with pancreatic insufficiency, but further work is needed to establish appropriate dosage of enzyme supplementation. Clinicians should have a low threshold for checking FEL-1.

Disclosure of Interest None Declared.

PTH-098 68GA-DOTATATE PET IN LOCALISING NEUROENDOCRINE TUMOURS – COULD THIS BE THE STATE OF THE ART DIAGNOSTIC TEST?

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Introduction 68Ga-DOTATATE PET is an established tool for localising primary tumour in metastatic neuroendocrine tumours (NETs) and in identifying NET metastases not seen on cross-sectional imaging. There is increasing evidence regarding its role in detecting occult primary sites in suspected NET.

We present our experience of patients with primary gastrinoma/insulinoma seen only on Ga-DOTATATE imaging.

Methods Patients reviewed in King's College Hospital between 2005–2011 were included. Ga-DOTATATE was performed if there was a high degree of clinical suspicion of NET with supportive biochemistry but negative imaging and endoscopy.

Results Patients with primary gastrinoma/insulinoma identified only with Ga-DOTATATE are presented below.

A 61 year-old male with dyspepsia and diarrhoea experienced multiple spontaneous jejunal perforations. Fasting gastrin and chromogranin A were elevated (>700 and 106 pmol/L respectively). Octreoscan showed a possible abnormal area in the pancreatic body not seen on CT, MRI, PET-FDG or EUS. DOTATATE revealed a soft tissue density in the pancreatic head. Post-Whipples histology confirmed NET tumour in peri-pancreatic lymph nodes.

A 64 year-old female presenting with an upper gastrointestinal bleed from extensive duodenal ulceration was found to have an elevated fasting gastrin level (>400 pmol/L) but a normal CT and Octreoscan. DOTATATE identified a focus within the gastrinoma triangle. Resection confirmed a 15 mm nodule of peri-pancreatic tumour with histological evidence of endocrine differentiation of low grade and proliferative rate.

A 77 year-old non-diabetic male with irritable bowel symptoms presented with spontaneous duodenal perforation and developed episodes of hypoglycaemia (glucose 0.2 mmol/l)

with an inappropriately elevated insulin (14.3 mU/l) and c-peptide (1063 pmol/l). Gastrin was raised (55 pmol/l). CT, MRCP, MRI pancreas and EUS were unremarkable. DOTA-TATE showed a small lesion in the pancreatic tail. Surgical enucleation of the lesion revealed a well differentiated NET histologically.

Conclusion These cases support the use of Ga-DOTATATE as a potential diagnostic tool in suspected but not yet localised primary cases of gastrinoma/insulinoma with symptoms or elevated blood levels of tumour markers where cross-sectional imaging is normal or equivocal.

To date calcium stimulation with selective angiography has been used. Ga-DOTATATE may obviate the need for this invasive and highly complex test.

Larger case series and prospective data are needed to look at the validity of this test and ascertain its role in routine clinical practice.

Disclosure of Interest None Declared.

PTH-099 EXTERNAL SHOCKWAVE LITHOTRIpsy (ESWL) OF PANCREATIC CALCULI IMPROVES PAIN RELATED TO CHRONIC CALCIFIC PANCREATITIS

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Introduction Chronic calcific pancreatitis is associated with the development of pancreatic ductal calculi. The calculi can lead to the blockage of the pancreatic duct which can increase the pressure in the duct causing pain. Removal of pancreatic calculi is conventionally done using endoscopic retrograde cholangio-pancreatography (ERCP). However, removal of large pancreatic calculi may not be amenable using ERCP alone. External shockwave lithotripsy has been successfully used to target and fragment large calculi located in the head or body of the pancreas. The fragmented calculi can be extracted by subsequent ERCP.

Methods We conducted a retrospective case-control study. We identified a cohort of patients who underwent ESWL followed by ERCP for the clearance of large calculi in the pancreatic duct and a cohort who were treated conventionally with ERCP +/- pancreatic duct stenting over a 15-month period from 22 August 2012 to 21 November 2013 in a tertiary hepatopancreatobiliary centre. The medical notes, endoscopy reports and radiological imaging of these patients were reviewed retrospectively to assess the success of achieving ductal clearance and the improvement in abdominal pain.

Results We identified 9 patients who underwent ESWL followed by ERCP and a same number of matched controls. Complete ductal clearance following ESWL/ERCP was 6 (66.7%) and partial in 3 (33.3%). 1 patient required 2 sessions of ESWL. Following ESWL/ERCP, 4 (44%) patients had no pain, 4(44%) had mild to moderate pain and 1 had severe pain. In the control group, 2 had no pain, 2 had mild to moderate pain and the rest still experienced severe pain. There were no complications following ESWL.

Conclusion ESWL combined with ERCP is safe and efficient in providing symptomatic relief for patients with large pancreatic calculi related to chronic pancreatitis. It can be offered as first line therapy in select patients with large pancreatic calculi.

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PTH-100 UTILITY OF EUS-GUIDED FINE NEEDLE ASPIRATION OF PANCREATIC CYSTIC LESIONS

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Introduction At least 1% of hospitalised patients will have a pancreatic cystic lesion on cross sectional imaging ¹. Differentiation of benign and potentially malignant/malignant pancreatic cystic lesions using conventional radiology and prior to surgery is difficult. Endoscopic ultrasound (EUS) guided fine needle aspiration (FNA) is considered safe, yet there is relatively limited data on the clinical utility of EUS in this setting or its complication rate.

Methods Retrospectively, 43 consecutive patients (F = 26, M = 17, mean age 63) undergoing EUS-FNA of a pancreatic cystic lesion (no. procedures = 46) following abnormal imaging were identified from an institutionally approved database. Data collected included pre-EUS imaging, EUS findings, number of passes, cyst fluid CEA, amylase and cytology, sedation requirements, complication rate and six month follow up where available.

Results 44 procedures provided sufficient information for further analysis. At EUS, 23 cystic lesions appeared benign and 21 premalignant/malignant. Median CEA (ug/L) in the benign group was 6 vs. 2234 in the malignant group; $p < 0.001$. Median amylase (U/L) in the benign group was 2989, versus 2795 in the malignant group; $p = 1.0$. In the malignant group, 4/21(19%) had positive cytology. In the benign group, 16/23 (69.5%) had no malignant cells.

Cytology was insufficient for analysis in 4/23 of benign appearing lesions, and 3/21 in malignant appearing lesions.

Average midazolam dose was 3.3 mg, and average pethidine dose 27.9 mg.

Complication rate was 4% (n = 2), with one patient experiencing severe abdominal pain (serum amylase normal) and another having a documented bile leak.

Availability of follow up data was limited by patients returning to their secondary care referral centres. 4 patients proceeded to surgery and had resection pathology available. Of these, 3 patients had confirmed malignant IPMN (one patient had no cyst fluid for analysis, one had raised CEA and no available

Abstract PTH-100 Table 1

	CEA ug/L	Cytology
Sensitivity	80	18.2
Specificity	100	100
PPV	100	100
NPV	83	55