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. DOTATATE 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

[1]K Kandiah*, [2]SF Neong, [2]P Vlavianos, [1]D Bansi, [1]M Hanna, [2]D Westaby. [1]*Gastroenterology, Charing Cross Hospital, Imperial Healthcare NHS Trust, London, UK;* [2]*Gastroenterology, Hammersmith Hospital, Imperial Healthcare NHS Trust, London, UK*

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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-pancreatiocography (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

MC Donnelly*, P Cheng, JS Leeds. *Gastroenterology, NHS Grampian, Aberdeen, UK*

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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