Methods Analysis of prospectively collected data on demographics (age, sex) and symptoms (including duration and level of dysphagia, type [solids/liquids, progressive/intermittent], associated symptoms [weight loss, reflux, regurgitation] and outcomes of investigations of 2000 consecutive referrals for dysphagia. Logistic regression determined significant variables for predicting PPs. A consultant ENT surgeon reviewed all barium swallows of PP patients. The local ethics committee ruled the study was within the remit of audit.

Results 1775 patients were investigated through the DHL, 37 with PP (1.9% of total, 2.1% of those investigated). One of these was a re-referral, 6 years after initial pouch stapling. 20 were male (54%), mean age 80.1 years (range 58–103 years). Mean age of all patients was 68.1 years (range 17–103), 48.5% male. Two patients had PPs and oesophageal cancer. On logistic regression only age greater than 73 years and symptoms of dysphagia greater than 26 weeks were predictive of PP as final diagnosis ($p < 0.001$ and 0.005 respectively). Weight loss (5.4 vs 28.5%) and reflux (45.9% vs 60.6%) were less common in PP patients and regurgitation more so (62.2% vs 52.1%) but none of these were significant.

Abstract PTU-147 Table

		Pharyngeal pouch (%)	All dysphagia (%)
Level of dysphagia	Pharyngeal/combination	83.8	25.6
	Midsternal	16.2	30.4
	Lower/combination	0	42.3
Type of dysphagia	Intermittent	49	44
	Progressive	43	30
	Solids only	81.1	79.7
	Both	18.9	19.7
Duration of dysphagia	≤ 26 weeks	51.3	74.8
	> 26 weeks	48.7	25.1

Conclusion Pharyngeal pouches in a dysphagic population are more common than previously recognised. Most though not all have pharyngeal level dysphagia. Where gastroscopy was performed as initial investigation, the procedure was likely to be incomplete although no complications occurred. Just over 50% of the PPs were thought likely to be the cause of dysphagia but less than 50% of these underwent surgery (stapling).

Disclosure of Interest None Declared

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PTU-148 EFFICACY OF EARLY CANCER SCREENING IN BARRETT'S OESOPHAGUS

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Introduction The British Society of Gastroenterology recommends biennial endoscopic screening of patients with known Barrett's. Despite being widely employed the efficacy of surveillance is contested as the assumed 0.5% per year progression from metaplasia to cancer is disputed.(1) This study aims to evaluate the efficacy of detection of Barrett's related cancer through screening within the Imperial College NHS Trust.

Methods We retrospectively analysed endoscopy and pathology reports of all patients who received an endoscopy for Barrett's oesophagus within a 5 year period from 2007 to 2012. Patients presenting with established dysplasia or adenocarcinoma were excluded and only those with confirmed Barrett's oesophagus were considered. The surveillance regime in this period was in accordance with the British Society of Gastroenterology guidelines. All endoscopies were conducted by Imperial College NHS gastroenterologists within Imperial Trust sites.

Results Over 54 months 326 patients underwent endoscopic surveillance of Barrett's oesophagus with a mean follow-up of 36 months. 73 (22%) patients stopped surveillance in this period. Early Adenocarcinoma and High Grade Dysplasia was reported in 2 (0.6%) and 3 (0.9%) patients respectfully. Providing a 0.2% progression to adenocarcinoma per year and a 0.5% progression to High Grade Dysplasia or cancer per year. This gave a cancer incidence in Barrett's oesophagus of 1 per 492 patient years of surveillance. All three of the HGD patients underwent endoscopic therapy and have successfully eradicated dysplasia and Barrett's. Both cancer patients were unsuitable for endoscopic therapy. 1 received surgical treatment and 1 received radiotherapy.

Conclusion The risk of progression to cancer is lower than previously anticipated. We estimate the cost of a single surveillance endoscopy at £400, thus surveillance costs are £124,000 per cancer diagnosis. The mean age of adenocarcinoma diagnosis through surveillance is 68.1(2) and with average male life expectancy of 78, the cost of diagnosis is approximately £12,400 per year saved. This assumes all cancers detected via surveillance are curable and does not account for any subsequent treatment or follow-up costs, therefore this is likely to be a fractiont of the true cost. NICE state that £20,000-£30,000 is a cost-effective range per quality adjusted life year saved. In light of this we recommend a more stratified, cost effective screening programme be considered.

Disclosure of Interest None Declared

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PTU-149 IS PEPSIN DETECTED IN THE SALIVA OF HEALTHY INDIVIDUALS?

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Introduction The presence of pepsin in the oesophagus or more proximally (pharynx or airways) suggests gastro-oesophageal reflux (GOR). However, appropriate normal values and correlation with acid and non acid reflux are still limited. The **aim** of this study was to measure pepsin in expectorated saliva together with objective assessment of GOR by pH-impedance in a large cohort of healthy asymptomatic subjects.

Methods 100 healthy subjects, age 30.7 (range 19–55), BMI 23.7 (17.7–32.8) with no typical or atypical reflux symptoms underwent MII-pH monitoring "off" PPI. Oesophageal pH was measured 5 cm above the LOS and impedance sensors were positioned at 3.7.9.12 and 15 cm above LOS. Subjects collected expectorated saliva on waking, one hour after lunch and one hour after dinner. Saliva was

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collected into tubes containing 0.5 ml of 0.01 M citric acid and analysed for the presence of pepsin using a lateral flow test comprising two unique human monoclonal antibodies to pepsin (Peptest™, RDBiomed Ltd). The cut off value to determine pepsin positivity was 25 ng/ml.

Results Of 300 saliva samples tested, 19% were +ve for pepsin. 64% of subjects had all three saliva samples negative; 20% had 1 sample positive, 12% had 2 samples positive and 4% had 3 samples positive. A similar percentage of samples were positive after lunch (24%) and dinner (22%), but lower on waking (10%). Median acid exposure time was 0.3% (IQR – 0.1–0.8%, 95thcentile 3.5%). Median no. of reflux events was 32 (15–42, 77) being acid 11 (5–22.47) and non-acid 15 (8–25, 46).

Saliva samples positive for pepsin were preceded by significantly more reflux events during the 60 min interval before sampling compared to negative samples both after lunch and dinner (+ve pepsin 6 reflux (4–9) vs. -ve pepsin 3 reflux (1–5) $p < 0.0001$). Supine acid exposure and no. of reflux episodes was not significantly different with +ve or -ve morning samples. Subjects with 3 saliva samples +ve for pepsin had a higher ratio of proximal reflux episodes than subjects with no +ve samples (37%(range 29–40%) vs. 19%(12–33%), $p < 0.02$). Only 6/300 samples contained more than 250 ng/ml pepsin.

Conclusion Pepsin was found in the expectorated saliva of a proportion of healthy individuals who did not experience reflux symptoms, particularly post-prandially. However, only 4% of healthy subjects had 3 positive samples. An increased number of reflux episodes were found prior to giving saliva samples with detectable levels of pepsin. Our results suggest that the presence of pepsin in saliva can be a potential screening tool for GERD when at least 3 samples throughout a day are positive or samples contain more than 250 ng/ml pepsin.

Disclosure of Interest None Declared

PTU-150 CONCORDANCE BETWEEN ENDOSCOPIC ULTRASOUND (EUS) AND POSITRON EMISSION TOMOGRAPHY (PET) IN THE STAGING OF UPPER GASTROINTESTINAL CANCER – A DISTRICT GENERAL EXPERIENCE

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Introduction Approximately 1700 patients/year are diagnosed with oesophageal or gastric cancer in Scotland. The Scottish Audit of Gastric and Oesophageal Cancer (SAGOC) previously reported under-staging of these cancers pre-operatively with curative surgery attempted too often. This resulted in incomplete resection and recurrence with a one year postoperative survival of only 53%. Increasing emphasis has therefore been placed on accurate pre-operative staging. Current guidelines advise multimodal staging with CT, EUS +/- laparoscopy if gastric involvement. Recently the use of PET staging has increased. We sought to establish the concordance between EUS and PET in the staging of upper GI cancer within a large district general hospital.

Methods A retrospective study was performed in patients with oesophageal or gastric cancer referred for multimodal staging with CT, EUS and PET between October 2008 and November 2011. Each case was reviewed at the local multi-disciplinary team (MDT) meeting. MDT outcome forms were collated and a casenote review performed. Baseline demographics, tumour characteristics and TNM staging was recorded.

Results 59 patients (45 male) were referred for both EUS and PET. The majority had adenocarcinoma (49/59, 83.1%) with 9 squamous carcinomas (15.3%) and 1 carcinoid (1.7%). A malignant stricture prevented EUS in 3 patients while in 3 patients CT-PET revealed metastatic disease and EUS was cancelled. 53 patients (40 male) underwent staging with both modalities. Concordance of N staging between EUS and PET was 75.9%. In 13/53 patients EUS altered prior PET staging, upstaging from N_0 to N_1 in 12/13 (91.4%). In patients undergoing EUS-FNA (10 mediastinal, 1 sub-diaphragmatic), 2/11 (18.2%) patients were found to have malignant lymphadenopathy affecting PET negative nodes while in 1 patients a PET positive node was found to be benign. EUS was more accurate in predicting resection N stage (65%) than PET (38.9%) with both tending to underestimate. In patients with T3 disease there was a significant difference in N staging between patients undergoing resection and those treated palliatively ($p < 0.05$).

Conclusion Nodal staging by EUS and PET differs in a significant proportion of patients undergoing pre-operative work-up for upper GI cancer. In the majority of cases PET underestimates nodal staging. However, technical difficulties may preclude EUS while the finding of distant metastases at PET prior to EUS may prevent unnecessary investigations. CT and EUS remain the mainstay of pre-operative staging in oesophageal and gastric cancers but PET is a useful adjunct.

Disclosure of Interest None Declared

PTU-151 HIGH RESOLUTION MANOMETRY PROFILE OF HIATAL HERNIA IN PATIENTS BEFORE AND AFTER FUNDOPLICATION

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Introduction Current data relating to esophageal motility evaluated by high resolution manometry(HRM) in presence of hiatal hernia(HH) is equivocal. This study was aimed to compare HRM variables in patients with HH before and after fundoplication and to evaluate diagnostic performance of HRM in detecting sliding HH.

Methods Sensitivity and specificity of HRM were assessed in 31 patients(20 females; mean age 48.2) with gastroesophageal reflux disease who were qualified for Nissen fundoplication and underwent preoperative HRM. Intraoperative diagnosis of HH was the gold standard. Area under curve(AUC) of receiver operating characteristic(ROC) reflecting diagnostic accuracy of HRM was also computed. Eleven patients(5 females; mean age 52.1) out of 31 were selected who underwent both: HRM before fundoplication(preoperative group) and at least 3 months after surgery(postoperative group). Manometric protocol included 10 consecutive swallows of 10 ml of water. Variables from pre and postoperative group were compared using paired Wilcoxon test.

Results 29 patients out of 31 were found to have HH during surgery while 14 patients had manometric criteria for HH(mean HH size was 2.44 cm). Sensitivity and specificity of HRM in detecting HH were 48% and 100% respectively. AUC under ROC curve for HRM was 0.74 indicating limited usefulness of this method; regarding threshold value of 0.8 for clinical practise. HRM profile of HH in preoperative group is characterised by significantly lower minimal basal esophagogastric junction(EGJ) pressure as well as integrated relaxation pressure(IRP) comparing to postoperative group without HH. IRP values were within normal range in both examined groups(< 15 mmHg). Although mean basal EGJ pressure was lower in preoperative than in postoperative group, the difference between groups didn't reach statistical significance. Neither DCI nor IBP was affected by fundoplication. Data is shown in table.

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