Competing interests None declared.

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PTU-195 SIX YEARS OF LAPAROSCOPIC NISSEN'S FUNDOPLICATION, WAS IT WORTH IT? AN AUDIT OF 100 PATIENTS

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L Martin,* M Stavrou, F El Madani, S Gupta. *General Surgery, Lister Hospital, Stevenage, UK*

Introduction Nissen's fundoplication for gastro-oesophageal reflux disease provides good long term control of acid reflux but is often not without unwanted side-effects. We investigated long term outcome of Nissen's fundoplication at our centre.

Methods Study group included 100 patients who underwent Nissen's fundoplication from 2005 to 2011 at our unit. Pre-operative demographics, symptom profile, investigations and operative data were reviewed. Symptoms after surgery (heartburn, dysphagia, bloating and excessive flatus), antacid usage and patient satisfaction were assessed using a follow-up questionnaire.

Results Average patient age was 47.5 years (19–79 years) with male to female ratio of 57:43. Majority of patients were obese or overweight (79%). Average follow-up was 39 months (3–80 months). Main symptoms included acid reflux (99%), volume reflux (56%) and nocturnal and postural reflux (45%). Gastroscopy revealed hiatus hernia 92%, reflux oesophagitis 71% and Barrett's oesophagus 11%. pH studies and manometry were undertaken in 90% and 93% of patients respectively. Mean acid exposure time was 16.2% (median 13%, range 1.4%–86%), mean symptom index was 79.25% (median 91%, range 1–100%) and mean Demeester score was 50.51 (median 30, range 4.7–291). Lower oesophageal sphincter pressure was normal in 54%, low in 37% and high in 9% of patients with complete relaxation in 91%. No patient had significant oesophageal dysmotility. No routine follow-up pH studies were undertaken. A primary crural repair with 360° short and floppy fundal wrap was constructed on all the patients. Hiatus was prosthetically reinforced on 17 patients (collagen patch 12, mesh 5). Conversion to open surgery was 2% (splenic bleed, difficult anatomy). Four patients required further surgery during follow-up period (severe dysphagia 2, excessive flatus 1, herniation through the wrap 1). Questionnaire responses from 96/100 patients were analysed (postal 56, telephonic 22, clinic review 18). Most patients (81%) were happy to have undergone surgery and would recommend this procedure to a friend (79%). A total of 58 patients (60%) were not on any anti-acid drugs, however 17 patients (18%) were on regular PPIs. Frequencies of post-operative symptoms are detailed below. Overall outcome was described by patients as excellent 43%, good 38%, fair 11% and poor 8%.

Conclusion Majority of patients undergoing Laparoscopic Nissen's fundoplication had good long term control of acid reflux and were happy with their decision to undergo surgery. Wind related side effects are a significant cause for dissatisfaction and must be emphasised during decision making for surgery.

Abstract PTU-195 Table 1

Symptom/ frequency	Never	Once per month	Once per week	Once per day	Several per day
Heartburn	64	12	4	4	12
Dysphagia	63	8	7	11	7
Flatus	28	0	9	16	43
Gas bloat	42	8	11	20	15

Competing interests None declared.

PTU-196 LONG-TERM RESULTS OF LAPAROSCOPIC HELLER'S CARDIOMYOTOMY FOR ACHALASIA CARDIA

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M Stavrou,* L Martin, F El-Madani, S Gupta. *General Surgery, East and North Hertfordshire NHS Trust, Lister Hospital, London, UK*

Introduction To review the long-term efficacy of Laparoscopic Heller's Cardiomyotomy in patients with Achalasia Cardia at a large UK District General Hospital.

Methods A structured postal survey was undertaken on 40 consecutive patients with clinical, radiologic, endoscopic and manometric diagnosis of Achalasia Cardia who underwent Laparoscopic Cardiomyotomy by a single surgeon at our unit between 1996 and 2011. The procedure was supplemented by Anterior Fundoplication on all the patients.

Results The average age of the 40 patients in the study group was 49 years (range 18–80 years) with an equal sex distribution. Mean follow-up since surgery was 34 months (3–88 months). Dysphagia scores improved in all the patients (100%). Thirteen patients (33%) had complete remission from dysphagia whereas 24 (60%) experienced occasional dysphagia only. Despite the improvement in dysphagia, three patients (7%) continued to have regular dysphagic symptoms. Although only seven patients (17%) had regular reflux symptoms, fifteen patients (37%) were on regular acid-suppressing drugs. Results were further stratified into excellent (38%), good (37%), fair (25%) and poor (0%), based on a previously described classification.[1] All patients (100%) reported overall improvement in their health-related quality of life as evaluated by relief of gastrointestinal symptoms (dysphagia and reflux) and patient satisfaction. Patient satisfaction was considerably high largely due to the absence of dysphagia and undeterred by the presence of reflux symptoms.

Conclusion Laparoscopic Cardiomyotomy with Anterior Fundoplication achieves excellent long-term relief from dysphagia for most of the patients with Achalasia. Despite the fundoplication, acid reflux is a frequent post-operative complication. However anti-acid medications minimise its clinical significance.

Competing interests None declared.

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PTU-197 DIAGNOSIS OF GASTRO-ESOPHAGEAL REFLUX DISEASE (GERD) AND PREDICTION OF TREATMENT RESPONSE TO PROTON PUMP INHIBITORS (PPI) BY PROLONGED WIRELESS PH MONITORING: A PROSPECTIVE ASSESSMENT

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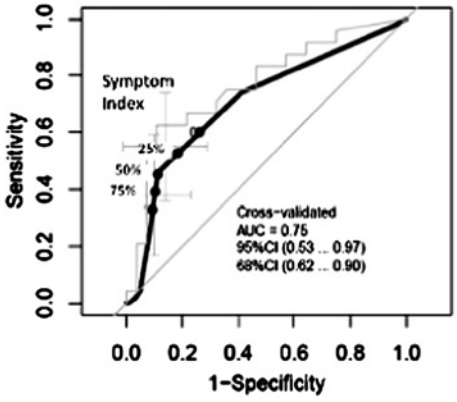
[1]M Fox,* [2]R Sweis, [1]E Tucker, [3]J Wright, [1]K Knowles, [2]A Anggiansah, [2]T Wong, [4]D Menne. *[1]NIHR Biomedical Research Unit, University of Nottingham, Nottingham, UK; [2]Oesophageal Laboratory, Guys and St Thomas's NHS Foundation Trust, London, UK; [3]Division of GI Surgery, University of Nottingham, Nottingham, UK; [4]Biostatistics, Menne Biomed, Tuebingen, Germany*

Introduction Increasing duration of pH studies improves consistency of GERD diagnosis but clinical utility of the method is not established. Aim: (1) to identify measurements from prolonged pH studies that discriminate healthy volunteers (HVs) and GERD patients (2) to compare prediction of PPI response from prolonged and standard measurement.

Methods HVs and patients with reflux symptoms entered a prospective trial. Quality of life (RAND-36) and symptom severity (Eraflux) was assessed on and off PPI and after 2 weeks ×2/day PPI. Endoscopy recorded mucosal disease. Wireless pH system (Bravo®, Given Imaging) measured acid reflux and symptoms up to 4 days. Receiver Operating Curve (ROC) assessed prediction of PPI response. For each prediction 80% of patients were randomly selected as training set, remaining 20% constituted test set. This was repeated 200 times producing average ROC with SEs. Area under Curve (AUC) quantified quality of prediction.

Results Complete data were available from 25/33 HVs (18F, age 20–56) and 70/108 patients (31F, age 18–77), >320 days in total. Oesophagitis was present in 9 HVs (32%: Grade A) and 26 patients (33%: Grade A=19, B=2, C-D=5). Acid exposure time was elevated (AET >5.6%) in 3 (12%) HVs and 35 (50%) patients. Eraflux off-PPI was >25 (consistent with GERD) in 60/63 patients and fell by mean 7 (95% CI 5 to 10) on PPI, 46% reported positive response (>3 fall). Diagnosis: Endoscopy, AET and reflux-symptom association analysis (Symptom Index (SI)) did not discriminate health/disease; but reflux-associated symptoms/day (nRS/Day) covered different ranges for HV and patients. Logistic regression with bootstrap validation identified that ≥3 RS/day corresponded to ~50% probability that participant was a patient.

PPI response: Clinical parameters and AET did not predict outcome. SI (9.2 vs 30.2, p=0.0023) and nRS/Day (1 vs 2.6, p=0.012) were higher in responders. RAND-36 scores for poor physical role and pain were higher in non-responders (p~0.1). SI ROC had an AUC of 0.73 (CI 0.51 to 0.92). SI >25 was the optimal cut-off for identifying PPI responders (Abstract PTU-197 figure 1). Prediction quality from 24 h studies was lower (AUC 0.69) and CIs for all parameters were wider with lower CI.



SI	sens	spec
0.00	1.00	0.00
5.56	0.92	0.32
11.11	0.80	0.54
16.67	0.71	0.68
22.22	0.62	0.81
27.78	0.62	0.88
33.33	0.44	0.93
38.89	0.28	0.93
44.44	0.25	0.93
50.00	0.21	0.93

Abstract PTU-197 Figure 1 ROC for SI as predictor of PPI response. Error bars show SE. ROC with cross-validation is black line, without cross-validation is grey line (~10% greater AUC).

Conclusion Diagnostic consistency for all parameters increases with study duration. A simple count of nRS/Day best discriminates HVs from patients on pH studies. SI >25 provides single best prediction of PPI response; but quality of predictions was modest in this population with low PPI response.

Competing interests None declared.

PTU-198 TOWARDS OBJECTIVE ENDOSCOPIC DIAGNOSIS OF EARLY BARRETT'S NEOPLASIA USING FIBRE-OPTIC RAMAN SPECTROSCOPY

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[1,2]M Almond,* [2]J Hutchings, [2]C Kendall, [2]N Stone, [3]N Shepherd, [1]H Barr. *[1]Oesophagogastric Surgery, Gloucestershire Royal Hospital, Gloucester, UK; [2]Biophotonics Research Unit, Gloucestershire Royal Hospital, Gloucester, UK; [3]Department of Pathology, Gloucestershire Royal Hospital, Gloucester, UK*

Introduction Raman spectroscopy is a powerful analytical technique that can rapidly and accurately identify biochemical changes in cells that have become neoplastic. We are aiming to translate this laboratory technique into an endoscopic tool that can identify high-grade dysplasia (HGD) and early malignant change (T1a, T1sm1) within Barrett's oesophagus. Here we aim to demonstrate that a novel fibre-optic Raman probe can correctly classify the pathology of ex vivo oesophageal tissue.

Methods A custom-built Raman probe, designed to fit through the instrument channel of a standard endoscope, was used to measure Raman spectra from ex vivo oesophageal tissue following oesophagectomy, endoscopic resection, or point biopsy from patients with Barrett's oesophagus +/- neoplasia. 1s spectra were measured using a monochromatic 830 nm laser for excitation. Multivariate analysis was used to correlate Raman spectra with histopathological diagnosis and calculate probe accuracy.

Results 348 spectra were measured from ex vivo tissue from 28 patients. Fibre-optic Raman measurements were able to discriminate between HGD/adenocarcinoma and non-dysplastic Barrett's oesophagus (BO) with a sensitivity of 91% and specificity of 96%.

Conclusion Fibre-optic Raman Spectroscopy could enable endoscopic targeting of early neoplastic lesions in the oesophagus facilitating potentially curative endoscopic resection. Preparation is underway for an in vivo pilot study.

Competing interests None declared.

PTU-199 VARIABLE REPORTING AND DIAGNOSIS OF EOSINOPHILIC OESOPHAGITIS ACROSS THE UK: DATA FROM THE BSG NATIONAL DISEASE REGISTER

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[1]M S J Wilson,* [1]A Simpson, [2]J O Hayat, [3]J H Ellison, [1]S E Attwood, [2]J-Y Kang. *[1]General Surgery, North Tyneside General Hospital, North Shields, UK; [2]Gastroenterology, St George's Hospital, London, UK; [3]British Society Gastroenterology, London, UK*

Introduction Eosinophilic oesophagitis (EoE), a disorder characterised by intermittent dysphagia, was first described over 20 years ago. The true prevalence of this condition is not known. In 2010, the British Society of Gastroenterology (BSG) established a National EoE Register. The aim was to determine the frequency and pattern of diagnosis in the UK, and to identify centres for future research and areas where few patients are diagnosed and hence educational input may be beneficial. We report the data collected from March 2010 to January 2012.

Methods A web-based register was established under the direction of the Oesophageal section of the BSG. Data entry was voluntary, anonymised, available by open access and did not require membership of the BSG. Clinicians from each hospital entered patient data. The date of birth and first part of patients' postcodes were recorded for demographic purposes and to prevent data duplication. Details of the specialty that made the diagnosis, the duration and pattern of symptoms, the diagnostic criteria and any treatment given were also recorded.

Results Data relating to 315 patients, although incomplete in some cases, were available for analysis. There were 229 patients from five centres and 86 patients from 30 other centres. No patients were entered from 70 hospitals. Their age ranged from 0 to 85 years. There were 236 males (75%) and 77 females (3:1). Symptom duration ranged from 0 to ≥25 years. 249 (79.0%) patients had >15 eosinophils per high power field (eos/hpf), 11 (4%) had <15 eos/hpf with 55 (17%) patients having no eosinophil count recorded. The