Abstract PTU-151 Table

	Preoperative median (IQR*)	Postoperative median (IQR*)
Hiatal hernia by HRM and intraoperative diagnosis (n)	11	0
Mean Basal EGJ pressure (mmHg)	8.3 (2.6, 11.2)	15.8 (9.9, 22.8)
Minimal Basal EGJ pressure (mmHg)	0.5 (–2.8, 4.1)	6.5 (4.6, 14.8)†
IRP (mmHg)	1.5 (–0.7, 3.7)	5.2 (2.1, 11.8)††
IBP (mmHg)	14.1 (9.6, 18.7)	13.9 (7.1, 24.6)
DCI (mmHgxsxcm)	1324 (711.6, 2207.7)	1381.7 (648, 2699.7)

* interquartile range; † p < 0.01; †† p < 0.001

Conclusion HRM is not reliable tool to diagnose HH. Due to poor sensitivity of HRM in detecting HH, manometric profile of patients with HH versus those without should be evaluated with caution. Surgical correction of HH contributes to higher EGJ relaxation pressure and improvement of antireflux barrier however neither bolus pressurisation nor DCI is affected by fundoplication.

Disclosure of Interest None Declared

PTU-152 HIGH RESOLUTION MANOMETRY PATTERN OF ESOPHAGOGASTRIC JUNCTION AND ESOPHAGEAL MOTILITY IN PATIENTS BEFORE AND AFTER FUNDOPLICATION

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Introduction Until now it has been limited knowledge related to the application of high resolution manometry (HRM) for the evaluation of fundoplication results. The aim of this study is to assess prospectively esophagogastric junction (EGJ) relaxation and resting pressures and esophageal motility by HRM in patients with gastroesophageal reflux disease (GERD) before and after laparoscopic Nissen fundoplication.

Methods 25 patients with GERD (15 females; mean age 46.8) underwent HRM before (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 Wilcoxon test for paired samples and also McNemar's test was done to evaluate if surgery had influenced values normalisation.

Results In postoperative group mean basal EGJ pressure as well as minimal basal EGJ pressure were significantly higher than in preoperative group. Integrated relaxation pressure (IRP) was also significantly higher in postoperative group as compared with preoperative group. IRP values were within the normal range in both examined groups (<15 mmHg) except one patient in postoperative group. Before fundoplication 11 patients had hiatal hernia, but none after

surgery. Significant increase of intrabolus pressure (IBP) and decrease of contractile front velocity (CFV) were found in postoperative group as compared with preoperative group. Distal contractile integral (DCI) was significantly higher in postoperative group, however based on DCI threshold (450 mmHgxsxcm) only trend from ineffective to effective esophageal motility was observed (p = 0.07). Also double-peaked waves were more frequent in postoperative than in preoperative group. Early dysphagia was observed in 8 of 25 patients after fundoplication. Data is shown in table.

Conclusion HRM is valuable tool for EGJ characteristics in GERD patients before and after fundoplication. Fundoplication establishes antireflux barrier by increasing EGJ resting pressures and correcting hiatal hernia. Even moderate increase of IRP may contribute to motility disorders and bolus pressurisation in some patients after fundoplication.

Disclosure of Interest None Declared

PTU-153 A FORMAL SURVEILLANCE PROGRAM WITH DEDICATED ENDOSCOPY LISTS IS REQUIRED TO IMPROVE COMPLIANCE WITH THE BRITISH SOCIETY OF GASTROENTEROLOGY (BSG) GUIDELINES FOR DIAGNOSIS AND MANAGEMENT OF BARRETT'S COLUMNAR-LINED OESOPHAGUS

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Introduction Endoscopic surveillance of Barrett's oesophagus is recommended by many national societies to detect progression to adenocarcinoma at an earlier stage.

Our aim was to audit Aneurin Bevan Health Board (ABHB) compliance with the 2005 British Society of Gastroenterology (BSG) guidelines for the diagnosis and management of Barrett's columnar-lined oesophagus.

Methods Aneurin Bevan Health Board electronic prospective histopathological database was searched to identify all cases coded as Barrett's oesophagus (BO) during the period from 2005 to 2011. Endoscopy reports of all patients were matched with histology reports. A retrospective registry was then constructed including demographics, clinico-pathological features, modes and rates of follow-up, pathological progression and incident cancer rate during the study period.

Results A total of 773 cases were coded as BO during the period 2005 to 2011. Interrogation of all records confirmed 620 cases to be worthy of inclusion excluding 153 cases due to inadequate data or incorrect coding. The 620 cohort of patients consisted of 406 males and 214 females with a median age of 65 years (range 20 to 97 years). BO histological confirmation was attained in 592/620 cases at index endoscopy and during a follow-up endoscopy in 28/620 cases. Intestinal metaplasia was reported in 459/620 cases. Dysplasia was diagnosed in 58/620 cases at index endoscopy; 16/620 of these index

Abstract PTU-152 Table

	Preoperative median (IQR*)	Postoperative median (IQR*)	p value
Mean Basal EGJ pressure (mmHg)	10.0 (5.7 – 15.6)	15.8 (15.2 – 23.7)	p < 0.05
Minimal Basal EGJ pressure (mmHg)	1.8 (–1.1 – 6.5)	7.3 (4.6 – 13.9)	p < 0.001
IRP (mmHg)	2.0 (0 – 3.3)	6.0 (2.9 – 11.4)	p < 0.001
Hiatal hernia (n, %)	11 (45%)	0	
IBP (mmHg)	10.2 (6.2 – 14.1)	13.9 (11.7 – 20.8)	p < 0.05
DCI (mmHgxsxcm)	859 (430 – 1574)	1008 (725 – 1968)	p < 0.05
CFV (cm/s)	4.3 (3.1 – 5.4)	2.9 (2.0 – 4.0)	p < 0.01
Double-peaked waves (%)	(0 – 22)	(0 – 78)	p < 0.01

* interquartile range

cases were reported as indefinite for dysplasia, 32/620 were low grade dysplasia and 10/620 cases were classified as high grade dysplasia. 233/620 (37.6%) patients had on average one follow-up and 100/620 (16.1%) had two or more follow ups during the study period.

Conclusion Compliance with BSG follow-up recommendations and other practise parameters is poor. We recommend a formal surveillance programme with dedicated endoscopy lists to improve compliance and permit a meaningful assessment of the clinical and cost effectiveness of such strategy.

Disclosure of Interest None Declared

PTU-154 SIRT2 MODULATES THE INFLAMMATORY RESPONSE IN OESOPHAGEAL ADENOCARCINOMA

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Introduction Gastro-oesophageal reflux disease is the main risk factor for Barrett's oesophagus (BE), the precursor lesion to oesophageal adenocarcinoma. In BE, GORD leads to chronic inflammation and to NF- κ B pathway activation.

SIRT2 is a histone deacetylase involved in deacetylation of key players in the cell, including p65, one subunit of the NF- κ B transcription complex. SIRT2 is part of our previously published gene signatures in which loss of SIRT2 confers a poor prognosis and overexpression a good prognosis in keeping with its known role as a tumour suppressor.

We hypothesised that exerts its protective effect through recruitment of inflammatory cells to the tumour site via the NF- κ B pathway. The aim of this study was to assess the inflammatory infiltrate in positive tumours to assess the relationship between the NF- κ B pathway.

Methods 76 surgical resection specimen of oesophageal adenocarcinoma were immunostained for SIRT2. An in-depth analysis of the nature of inflammatory cells localised to high SIRT2 areas was done in 5 cases using immune cell markers (CD3, CD4, CD8, CD20, CD56 and CD68). NF- κ B and SIRT2 luciferase reporter assays were used with SIRT2 overexpression and TNF α stimulation to study the interplay between the NF- κ B pathway and SIRT2. A panel of SIRT2 promoter mutants with mutations of one or two or both NF- κ B putative binding sites, identified through an *in silico* analysis, were also used.

Results 32% of the cases were strongly positive for SIRT2 (+3 and +2 on a scale from 0 to +3 where 0 is negative). A higher number of inflammatory cells were identified in SIRT2-positive cases compared to SIRT2 negative cases. In particular, SIRT2 positive cases showed strong staining for CD68 indicating an enrichment in the number of macrophages. SIRT2 overexpression significantly down-regulated NF- κ B activity ($p = 0.0011$). Immunoblotting suggests that this downregulation is probably conferred by the deacetylation of Lysine 310 at the p65 subunit of NF- κ B. Luciferase assays with the full-length SIRT2-promoter reporter revealed that the SIRT2 promoter was induced by TNF α stimulation (activates NF- κ B pathway). This stimulation resulted in decreased luciferase activity when the NF- κ B binding sites mutants were used, suggesting a direct action of NF- κ B on SIRT2.

Conclusion In oesophageal adenocarcinoma, SIRT2 expression is linked with an increased inflammatory infiltrate, especially macrophages. Luciferase reporter assays suggest that SIRT2 and NF- κ B regulate each other. Taken together, downregulation of NF- κ B by SIRT2 could be an explanation for the protective effect of SIRT2 overexpression in oesophageal adenocarcinoma. Further work is required to confirm these findings.

Disclosure of Interest None Declared

PTU-155 LESSONS LEARNT FROM THE FIRST 50 CONSECUTIVE PRIMARY LAPAROSCOPIC NISSEN FUNDOPLICATIONS IN A SINGLE SURGEON'S PRACTICE

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Introduction Laparoscopic Nissen fundoplication (LNF) is widely used in the surgical management of gastroesophageal reflux disease (GORD). However, it is a complex operation that requires advanced laparoscopic skills. Very few studies report objective testing postoperatively; those that do show high rates of failure within the first 1–3 years following surgery. Complications and failures of LNF are directly related to surgeon's experience and the learning curve has been identified as a confounding factor.

The Aim of this is analyse a single surgeon's first 50 consecutive primary LNFs experience. The data will be used to attempt to define the learning curve (LC) for LNF using success as surrogate marker of competency, and of how this may influence future training.

Methods All the patients who underwent antireflux surgery were entered into a prospectively maintained database. The procedures were performed using a five-trocar technique and with 10-/5- mm ports and instruments. Surgical outcome was recorded using the Visick symptom evaluation tool and complications graded according to the Dindo-Clavien classification. Captured parameters included patients' demographics, BMI, ASA grade, pre-operative investigations, operating time, indications for surgery, laparoscopic to open conversion rates, re-operation rates, morbidity, and mortality, follow up, and further investigations and interventions. Systematic case per case retrospective note analysis was performed.

Results The first fifty consecutive cases underwent primary sutured cruroplasty and Nissen's fundoplication by or under the direct supervision of the operating surgeon. One patient was abandoned due to inability to access the hiatus and one converted to open for bleeding from the omentum upon insertion of the primary port (both were during the first 25 cases). Three patients suffered with complete post-operative dysphagia, 2 resolved during the first 48 hours and one was converted to Toupet's (they were all during the first 25 cases). On follow up, one patient was re-operated and undone two years following the procedure for continuous epigastric pain with good outcome and one who had belching as a predominant symptom did not derive any symptomatic benefit from the procedure.

Conclusion Laparoscopic antireflux surgery "a reparative procedure" is not a natural extension of laparoscopic cholecystectomy "an extirpative procedure". Different dissecting skills and mastery of intracorporeal suturing and knot tying are necessary for laparoscopic antireflux surgery. The long and steep learning curve can be modified but not eliminated by systematic training and direct supervision during the first 25 cases. Occasional surgical treatment of GORD must be discouraged in order to achieve best possible surgical outcomes.

Disclosure of Interest None Declared

PTU-156 THE COMBINATION OF AUTOFLUORESCENCE IMAGING AND PROBE-BASED CONFOCAL LASER ENDOMICROSCOPY HAS AN EXCELLENT DIAGNOSTIC ACCURACY FOR DYSPLASIA IN BARRETT'S ESOPHAGUS

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Introduction Endoscopic surveillance in Barrett's oesophagus (BO) has major limitations including sampling error due to inconspicuous dysplasia, need for multiple biopsies and subjectivity of pathological assessment of dysplasia. Probe-based confocal laser