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 sur-
veillance 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
OSSEPHAGEAL ADENOCARCINOMA

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

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

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

Methods 76 surgical resection specimen of oesophageal adenocar-
cinoma 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-κB and SIRT2 luciferase reporter assays were
used with SIRT2 overexpression and TNFα stimulation to study the
interplay between the NF-κB pathway and SIRT2. A panel of
SIRT2 promoter mutants with mutations of one or two or both
NF-κB 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 com-
pared 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-κB activity (p = 0.0011). Immunoblotting suggests
that this downregulation is probably conferred by the deacetylation
of Lysine 310 at the p65 subunit of NF-κB. Luciferase assays with
the full-length SIRT2-promoter reporter revealed that the SIRT2
promoter was induced by TNFα stimulation (activates NF-κB
pathway). This stimulation resulted in decreased luciferase activity
when the NF-κB binding sites mutants were used, suggesting a
direct action of NF-κB on SIRT2.

Conclusion In oesophageal adenocarcinoma, SIRT2 expression is
linked with an increased inflammatory infiltration, especially macro-
phages. Luciferase reporter assays suggest that SIRT2 and NF-κB
regulate each other. Taken together, downregulation of NF-κB 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 FUNDOPLEXATIONS IN A
SINGLE SURGEON’S PRACTICE

doi:10.1136/gutjnl-2013-304907.245

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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 postop-
eratively; 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 LNF’s 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 Vis-
cik symptom evaluation tool and complications graded according to
the Dindo-Clavien classification. Captured parameters included
patients’ demographics, BMI, ASA grade, pre-operative investiga-
tions, 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 entered primary sutured
cruraloplasty and Nissen’s fundoplication by or under the direct super-
vision 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 symp-
tom did not derive any symptomatic benefit from the procedure.

Conclusion Laparoscopic antireflux surgery “a reparative proce-
dure” 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 laparo-
scopic 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 sur-
gical outcomes.

Disclosure of Interest None Declared

**PTU-156** THE COMBINATION OF AUTOFLUORESCENCE IMAGING
AND PROBE-BASED CONFOCAL LASER EDMINOSCOPY
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 incon-
spicuous dysplasia, need for multiple biopsies and subjectivity of
pathological assessment of dysplasia. Probe-based confocal laser

Disclosure of Interest None Declared
endomicroscopy (pCLE) allows real time histological assessment of the esophageal epithelium. However, in the absence of visible lesions, random pCLE is, like biopsies, subject to sampling error. We therefore used autofluorescence imaging (AFI) as a red-flag technique followed by a comparison of different advanced imaging technologies in these areas. The aims of the study were to evaluate the diagnostic accuracy for dysplasia of pCLE and to compare pCLE with narrow band imaging (NBI) for the prediction of the dysplasia.

Methods 27 patients with BO have been recruited at a single tertiary referral centre (non-dysplastic BO n = 9, indefinite for dysplasia n = 2, BO with low grade dysplasia n = 8, BO with high grade dysplasia (HGD) n = 3, BO with intramucosal cancer (IMC) n = 5). Mean BO length was 8cm. AFI positive (AFI+) areas were identified and assessed by NBI-zoom and pCLE, according to previously published criteria. Targeted biopsies were taken from AFI+ areas as well as from random quadrantic locations. Correlation between imaging patterns and histological outcome was analysed in a per lesion analysis (AFI+ areas individually) and per patient analysis (overall histology). Differences between pCLE and NBI were analysed with Fisher’s exact test.

Results In the per lesion analysis, sensitivity and specificity of pCLE were 100% and 67%, respectively, for a diagnosis of HGD/IMC and 69% and 78% for a diagnosis of any grade of dysplasia. pCLE had a significantly higher sensitivity for dysplasia (P < 0.007) than NBI, but a lower specificity (p = 0.04), due to a slightly higher false positive rate. In the per patient analysis the combination of AFI and pCLE had a sensitivity and a specificity of 100% and 47%, respectively, for a diagnosis of HGD/IMC, and 100% sensitivity and specificity for a diagnosis of any dysplasia (Table 1). AFI+pCLE did not change the overall patient outcome compared to the Seattle protocol, but allowed identification and correct characterization of 4 additional areas containing HGD/IMC. Conclusion pCLE can efficiently identify any grade of dysplasia. These preliminary data suggest that the combination of AFI and pCLE allows accurate in vivo diagnosis of dysplasia within BO. A larger study is warranted to determine whether this approach affords the potential to eliminate the necessity for multiple random biopsies during endoscopic surveillance.

Disclosure of Interest None Declared

PTU-157 HER2 POSITIVITY IN UPPER GASTROINTESTINAL TUMOURS IN A LARGE MULTI-CENTRE COHORT IDENTIFIES SIMILAR POSITIVITY RATES BUT DIFFERENT TRENDS THAN PREVIOUSLY REPORTED AND SUGGESTS NEW POTENTIAL AVENUES FOR HER2 THERAPIES

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Introduction Evaluation of HER2 status is standard practise for people with inoperable locally advanced or recurrent and/or metastatic adenocarcinoma of the stomach or gastroesophageal junction (GOJ). HER2 positivity is defined as a histology score of 3+, or 2+ with HER2 gene amplification. This study analysed gastroesophageal HER2 testing in UCL-AD over the past 2.5 years.

Methods All referrals for HER2 testing (n = 844) were reviewed. Data was captured for age (n = 367), sex (n = 320), tumour origin (n = 104), referring lab (n = 768), sample adequacy, HER2 grading (0–3+) and tumour type. Sections were immunostained with the Roche Tissue Diagnostics Pathway HER2 assay. For cases scoring 2+, F/DDISH testing was performed and the turn-around-time (TAT) from receipt to result analysed.

Results Cases were received from 61 labs, mean age 68yo (26–95yo, SD = 15) and the majority were men (71.5%). Specimens originated from oesophageal (OE) (35.7%), GOJ (13.5%), stomach (48%) and UGI metastases (4.8%). The majority (98.7%, n = 833) were HER2-graded. The tumour types were intestinal (INT) (49.6%, n = 257), diffuse (D) (29%, n = 150), mixed D/INT (14.3%, n = 74), carcinoma-in-situ (HGD/IMC) (6.4%, n = 33), squamous (Sq) and adenocarcinoma (ASq) (0.4%, n = 2 each). HER2 scores were 0 (44%, n = 366), 1+ (14.5%, n = 121), 2+ (18.8%, n = 156) and 3+ (22.7%, n = 189). Gene amplification of 2+ cases identified 124 (79.5%) negative, 23 (14.7%) positive and 9 (1.1%) unrecordable results. HER2 positivity (3+/2+&F/DDISH+) was noted in 10% (15/150) of D, 30.4% (78/257) of INT, 13.5% (10/74) of mixed D/INT, 54.5% (366) and 18.8% (33) of HGD/IMC and in 50% (1/2) of Sq tumours. A TAT of <5 days was achieved in 97% of cases not requiring in situ, and <10 days in 97.5% requiring F/DDISH.

Conclusion Overall HER2-positivity rate was 25.8% in a cohort twice the size of the UK cohort reported in the benchmark ToGA trial. When compared with ToGA, subgroup analysis showed comparable but higher rates in D cancers (10% vs 6.1%), lower in both INT/mixed cancers (30.4/13.5% vs 32.2/20.4%), showed opposite proportions of GOJ/stomach cancers (28.6/31.3% vs 33.1/20.9%), and grouping proximal (OE+GOJ) cancers together, a higher ratio compared to stomach cancers was seen (0.51 vs 0.33).

Disclosure of Interest None Declared

Abstract PTU-157 Figure

Abstract PTU-156 Table

<table>
<thead>
<tr>
<th>Diagnosis of HGD/EC and any dysplasia in patients with BE</th>
<th>Sensitivity</th>
<th>Specificity</th>
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<tbody>
<tr>
<td>AFI+NBI</td>
<td>83%</td>
<td>62.50%</td>
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<tr>
<td>pCLE</td>
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<tr>
<td>pCLE</td>
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<td>pCLE</td>
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<td>100%</td>
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<tr>
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<td>pCLE</td>
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</table>

Conclusion Overall HER2-positivity rate was 25.8% in a cohort twice the size of the UK cohort reported in the benchmark ToGA trial. When compared with ToGA, subgroup analysis showed comparable but higher rates in D cancers (10% vs 6.1%), lower in both INT/mixed cancers (30.4/13.5% vs 32.2/20.4%), showed opposite proportions of GOJ/stomach cancers (28.6/31.3% vs 33.1/20.9%), and grouping proximal (OE+GOJ) cancers together, a higher ratio compared to stomach cancers was seen (0.51 vs 0.33).