(1). ER was successful in a mean of 1.46 procedures per patient (range 1–3). Complication rate was 5.2% (4 bleeds, 1 microperforation, 2 strictures). Additional RFA was used in 11 cases. 12 (20%) of patients developed recurrence of HGIN/IMC during follow-up requiring further endoscopic therapy. 2 (3.4%) patients developed more advanced Barrett's neoplasia during follow-up. The calculated cost per patient of an ER-dominant approach is £4125 compared to £8868 per patient for an RFA dominant approach.

Conclusion ER acted as an accurate and safe staging procedure in up to 23% of cases found to have advanced histology. ER is an effective and safe treatment for HGIN/IMC within Barrett's oesophagus without the need for routine RFA and can be performed successfully in a UK centre. However the recurrence of HGIN/IMC is not uncommon and therefore close follow-up is required to identify and treat it at an early stage. An ER-dominant approach may offer significant cost-savings compared to an RFA-dominant approach without compromising overall outcomes.

Disclosure of Interest None Declared

PTU-165 THE BETTER DEFINITION OF NODAL STAGING IN THE 7TH EDITION OF TNM MANUAL DOES NOT PREDICT SURVIVAL OR TRANSLATES INTO BETTER PROGNOSTICATING ABILITY IN OESOPHAGO-GASTRIC JUNCTIONAL ADENOCARCINOMA

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Introduction The 7th TNM staging defines a minimum number of nodes, recommends an optimal number for each T stage, emphasises the prognostic importance of number of regional nodes involved and upstages based on the number of metastatic lymph nodes. We intend on studying the impact of application of 7th TNM rules on nodal staging (N) of resected and pathologically reported oesophago-gastric junctional (OGJ) adenocarcinomas during the last 10 years stratifying them according to the 7th edition TNM staging and to compare against the original staging and assess possible impact of nodal neo-staging on survival.

Methods A retrospective database was used to capture the clinicopathological data of all consecutive curative resections of OGJ adenocarcinomas over the last 10 years in two UK Upper GI Units. Any report with less than 12 lymph nodes was considered inadequate and denoted as (Nx). All cases were re-reported and re-staged according to the 7th TNM staging rules. We compared the impact of the 7th TNM staging rules on neo-staging. Overall survival was analysed using the 6th and 7th TNM staging respectively. Overall survival was sub-stratified into 2 years, 5 years and 10 years post curative resection.

Results Fifty seven (57) pathology reports confirming OGJ adenocarcinomas were reviewed. Adequate lymphadenectomy (minimum of 12 nodes) was noted in 33 patients. Overall stage migration was noted in 36 (63%) reports with the 7th TNM staging. Of those who had adequate lymphadenectomy (33), 20 reports (60.6%) had stage migration. Survival was calculated from the time of initial surgery. Two year survival was assessed in the whole group (n = 57). Five year survival for patients operated between 2000 to 2007 (n = 34) and 10 year survival for those operated on between 2000 to 2002 (n = 10). For stage 3b and stage 3c (7th TNM) there was a 12.5%, 8.9% and 8.9% higher survival rate respectively (for 2.5 and 10 years), compared to the original 6th TNM staging for stage 3. Correspondingly for stage 1b, the survival rate was 5.3%, 3.6% and 3.6% respectively.

Conclusion The 7th edition of TNM staging provides a detailed documentation of the lymphatic staging. This better defined lymphatic staging does not seem to predict survival or have a superior prognosticating ability.

Disclosure of Interest None Declared

PTU-166 DIAGNOSIS OF GASTRO-OESOPHAGEAL REFLUX DISEASE (GORD) BY HISTOLOGY OF MUCOSAL BIOPSIES FROM DISTAL OESOPHAGUS: AGREEMENT WITH PROLONGED PH MONITORING

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Introduction Prolonged wireless pH-monitoring (Bravo) increases diagnostic yield compared to 24 hr pH-studies. Studies have shown a weak association between oesophageal acid exposure from 24 hr pH-studies and mucosal disease on distal oesophageal histology. This study assessed the association between Bravo, endoscopic findings and distal oesophageal histology.

Methods From July 2009 to August 2010, 63 consecutive patients with typical reflux symptoms had endoscopy with biopsies taken from 3 & 9 o'clock position at and 2cm proximal to the Z-line prior to pH capsule fixation 6cm proximal to the Z-line for prolonged (up to 96 hr) Bravo. All biopsies were assessed by the 6-parameter Zentilin histology score (Zentilin *et al* Gastroenterol 2005). GORD diagnosis was based on "Average" acid exposure (Total Reflux; TR > 5.3% time pH < 4) over the time period measured and/or symptom-association (symptom index; SI > 50%)

Results Adequate biopsy samples were available from 57/63 patients (mean age 44 (range 17–78); 27M). 37/57 (65%) patients had GORD based on either TR (n = 30) or SI (n = 32). 20/57 (35%) were both TR & SI negative (Functional Heartburn; FH). 18 FH patients had no mucosal changes, 2 had grade A oesophagitis. There was no difference in individual histology parameters between GORD vs. FH (p > 0.05) apart from increased 'intra-epithelial neutrophils' (IEN) at the Z-line (9/37 vs. 1/20 positive; p = 0.031) and 2cm proximally (6/37 vs. 0/20 positive; p = 0.012). The combined Zentilin histology score was also higher in GORD at the Z-line (p = 0.079) and 2 cm proximally (p = 0.05).

Using GORD diagnosis from 96 hr Bravo as reference, ROC analysis revealed that, although sensitivity remained poor, specificity of GORD diagnosis based on histology improved with IEN and total histology score. With increased IEN, sensitivity was 30% at the Z-line and 20% 2 cm above while specificity was 92.6% at the Z-line and 100% 2cm proximally. For the optimal Zentilin histology score of ≥7, sensitivity was 40.5% at the Z-line and 18.9% 2cm above while specificity was 95% at the Z-line and 100% 2 cm proximally.

Histology corroborated GORD diagnosis (based on positive TR) in 11/30 and 20/30 patients at the Z-line and in 6/30 and 11/30 patients 2 cm proximally.

Conclusion Histology lacks sensitivity as a stand-alone diagnostic test; however high IEN or total histology scores have high specificity for GORD diagnosis based on pH-study results. Thus, routine biopsy of the distal oesophagus may be sufficient to diagnose GORD and obviate the need for ambulatory pH-studies in this subgroup of patients.

Disclosure of Interest None Declared.

PTU-167 DIFFERENCES IN BARRETT'S OESOPHAGUS IN AN ETHNICALLY DIVERSE SOUTH LONDON POPULATION

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Introduction Barrett's oesophagus (BO) is a metaplastic change of the lining of the oesophagus; the normal squamous epithelium is replaced by specialised columnar epithelium. BO is a risk factor for

oesophageal adenocarcinoma, which is increasing in incidence in developed countries¹. Risk factors for BO are age, being white Caucasian and male gender². To our knowledge, no differences have previously been found between the mean length of Barrett's segment or the mean age of BO patients in differing ethnic groups

Methods We performed a retrospective analysis of electronic patient records at St George's Hospital, which serves a large ethnically diverse population. Patients with a diagnosis of BO were identified from gastroscopy records dating from 2009 to 2012. Demographic information was collected for every patient. Patients of Indian sub-continent Asian (ISA) origin were identified using surname as previously described³. We looked at length of Barrett's, gender and age in ISAs, compared to other ethnic groups

Results 499 procedures were identified where the diagnosis was BO. Multiple reports for individual patients were excluded, identifying 378 patients with an endoscopic diagnosis of BO. Mean age of the sample was 67 years (SD 14.4). 11% of the sample were of ISA origin, 89% were of non-ISA origin. No significant difference was found in the mean length of the Barrett's segment between males and females. However, male patients with BO were younger than females (65.5 years vs. 70.2 years; $p = 0.003$). No significant difference was found in the mean Barrett's length or mean age between ISAs and non-ISAs. Patients of ISA origin were not found to have any significant difference between mean length of Barrett's segment or mean age. Patients of non-ISA origin had no significant difference in mean Barrett's length between males and females, but there was a statistically significant difference between mean age of male Barrett's patients (65.1 y) and female Barrett's patients (70.7 y; $p = 0.01$) in this group

Conclusion In our ethnically diverse population, male patients with Barrett's oesophagus are younger than female patients. Furthermore, this difference occurs only in patients of non-Indian sub-continent origin. This implies that there may be an environmental factor in the UK which confers an accelerated progression of Barrett's oesophagus in male patients. Further study in this area is warranted

Disclosure of Interest None Declared.

REFERENCES

1. Shaheen & Ransohoff. Gastroesophageal reflux, Barrett oesophagus, and esophageal cancer: scientific review. *JAMA* 2002; 287: 1972–1981
2. Ford *et al.* Ethnicity, Gender, and Socioeconomic Status as Risk Factors for Esophagitis and Barrett's Esophagus. *American Journal of Epidemiology* 2005; 162: 454–460
3. Kang *et al.* Diverticular disease of the colon: ethnic differences in frequency. *Aliment. Pharmacol. Ther.* 2004; 19: 765–769

PTU-168 'TOMATOES WEARING SUNGLASSES' ARE HARD TO SWALLOW – AN ANALYSIS OF THE PREVALENCE, PRESENTING FEATURES & INVESTIGATION FINDINGS IN PATIENTS WITH EOSINOPHILIC OESOPHAGITIS AT A DISTRICT GENERAL HOSPITAL

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Introduction Eosinophilic Oesophagitis (EoE) is a recently described disorder of unclear aetiology and prevalence. Most published studies emanate from international and tertiary referral centres, with a greater focus on the paediatric population, where the disease is better described. We present one of the largest case series of adult patients with EoE managed in a typical UK district general hospital. We describe the patient demographics, presenting features and investigation findings.

Methods We performed a retrospective analysis of clinical records at the East and North Hertfordshire NHS trust from January 2009

to December 2012 to identify patients with EoE. The diagnosis of EoE was confirmed by symptoms, the presence of more than 15 eosinophils (likened by pathologists to "tomatoes wearing sunglasses") per HPF on oesophageal biopsy, and the absence of an alternative diagnosis. Data fields collected included gender, history of atopy, presenting symptoms, endoscopic findings, peripheral eosinophil count, and serum allergy testing.

Results We identified 45 patients with EoE in this 3 year period. With an estimated catchment population of 545,820, the prevalence of EoE in our local population is about 0.8 per 10,000 people. 33 patients were male and 12 were female, giving an approximate male:female ratio of 3:1. The average cohort age was 52 years. Presenting symptoms were dysphagia in 82% ($n = 37$), food bolus obstruction in 36% ($n = 16$), reflux in 24% ($n = 11$) and abdominal pain in 9% ($n = 4$). The time to diagnosis ranged from 0 to 15 years.

On endoscopy, 71% ($n = 32$) had typical features of EoE. The remaining 29% had a normal gastroscopy. We estimate that EoE is responsible for about 2% of all gastroscopies performed for dysphagia at our trust.

32 patients were questioned about a history of atopy; 81% ($n = 26$) had a confirmed history. Of the 41 patients who had a full blood count cheque, 15% ($n = 6$) had a peripheral eosinophilia. Total IgE levels were checked in 17 patients; 16 (94%) had elevated levels. Food allergy testing for cod, wheat, egg, soya, milk and nuts was performed in 15 patients. 9 of these patients (60%) had a positive test, the most common allergens being wheat ($n = 7$) and egg ($n = 5$).

Conclusion EoE is a common diagnosis in patients presenting with dysphagia. This case series highlights the importance of obtaining oesophageal biopsies when endoscopic appearances are normal. Given the prevalence of EoE, and the variation in assessment even within one trust, national guidelines are required to standardise diagnostic and management pathways for patients with EoE.

Disclosure of Interest None Declared.

PTU-169 THE TWO WEEK WAIT – IS IT ANY GOOD AT DIAGNOSING OESOPHO-GASTRIC CANCERS?

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Introduction The two week wait (2WW) for suspected upper gastrointestinal cancer was introduced by the Department of Health in 2000 to identify of those at risk of malignancy and to fast track their investigation and management. Twelve years on, we aimed to assess the value of this mode of referral and whether this alters outcomes for those diagnosed through this pathway.

Methods All patients diagnosed with oesophogastrophic cancer between April 2011 and March 2012 at the QEII and Lister hospitals, were retrospectively reviewed using our MDT database. These cases were analysed with respect to mode of referral, TNM stage of disease at diagnosis and subsequent management. We reviewed all upper gastro-intestinal 2WW referrals for gastroscopy in the same time period, to determine the proportion which represents malignancy in whom malignancy was found.

Results During this twelve month period 87 gastro-oesophageal cancers were diagnosed, 75% were oesophageal compared to 25% gastric in origin. There was a male preponderance, accounting for 61% of cases, the average age at diagnosis being 71 years old.

56% were diagnosed via the 2WW, whilst the remainder presented as routine referrals (19%), emergency admissions (22%) and referrals from other specialities (3%). Tumour staging (TNM) at the time of diagnosis was comparable between the routine and 2WW referrals as was the proportion of those who had advanced disease at diagnosis (T4 and above) accounting for 47% and 52% of cases respectively.