Aim To evaluate the changes in prevalence and aetiology of FBI of the oesophagus.

Methods Details relating to all patients who presented with FBI to the Department of Gastroenterology at the Royal Adelaide Hospital from 1996 to 2010 were reviewed from a prospective database. The periods were divided into 1996–2000, 2001–2005 and 2006–2010. Detailed endoscopic and histological findings were examined for patients who presented between these periods. Data from coding department were analysed to assess the pattern of presentation and specialties involved.

Results Over 15 years, 248 patients presented with FBI (74% male) to the Gastroenterology department. The prevalence of FBI increased overtime (1996–2000: n=30, 2001–2005: n=80; 2006–2010: n=137). While there was no change in gender, the age of presentation was significantly younger in 2006–2010 (56.2±1.6 yrs) than that from 2001 to 2005 (61.6±1.9 yrs, p=0.03) and 1996–2000 (62.8±3.3 yrs, p<0.01). The predominant causes for FBI between 1996 and 2000 related to benign strictures and complications of reflux disease (64%), and no patient had EE. The diagnosis of EE was suspected during endoscopy in 10% of patients in 2001–2005 and 35% of patients in 2006–2010 (p<0.01). Oesophageal biopsies were taken significantly more frequently in patients who presented with FBI between 2006–2010 (75%) as compared to those in 2001–2005 (47%, p<0.01) and 1996–2000 (12%, p<0.001). Histologically proven EE was found in 6.2% of patients in 2001–2005 and 23% of patients in 2006–2010 (p<0.01). There were no significant changes in other aetiologies overtime (benign strictures, reflux disease, malignancy, or post-surgical strictures). Endoscopic findings of "normal" esophageal structure or mucosa reduced overtime occurred in 23% in 1996–2000, 17% in 2001–2005 and 14% in 2006–2010.

Conclusion The increased prevalence of FBI overtime is associated with an increased prevalence of eosinophilic oesophagitis. While this may be related, increasing awareness about eosinophilic oesophagitis and lower threshold for performing esophageal biopsy are also likely to contribute.

Competing interests None declared.

Neurogastroenterology and motility

PWE-044 GASTROINTESTINAL SYMPTOMS IN THE JOINT HYPERMOBILITY SYNDROME

doi:10.1136/gutjnl-2012-302514d.44

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Introduction The Joint Hypermobility Syndrome (JHS) is a hereditary connective tissue disorder, characterised by hyperflexibility of the skin and joints and musculoskeletal symptoms. A high prevalence of JHS has been found in patients presenting to GI clinics with unexplained symptoms.[1] However, the range and prevalence of gastrointestinal (GI) symptoms in JHS patients coming from rheumatology clinics has never been adequately characterised or compared to other patient groups. This was our aim.

Methods Multicentre, cross sectional study in new referrals to GI clinics between April 2010 and December 2011. Patients between the ages of 16–70 with a rheumatological diagnosis of JHS were compared to those in whom JHS had been excluded, at their first GI clinic visit. The validated Bowel Disease Questionnaire was completed for GI symptom information. Clinical examination confirmed or excluded the diagnosis of JHS, using the 1998 Brighton criteria. Patients outside the age range or with limited English were excluded. GI symptoms were considered significant if they occurred at least once a week, and were compared between the two groups, adjusting for sex and age. In view of the multiple comparisons, the significance level was set at 0.005.

Results 413 patients participated: 43 with a previous rheumatological diagnosis of JHS, and 370 in whom JHS had been excluded. There were significantly more females in the JHS group (95% vs 54%, p=0.000), and they were younger (mean age: 34.6±10.97 vs 43.3±14.2, p=0.000). Abdominal pain was present in all JHS patients and was significantly more likely to be of more than 5 years duration:(OR 4.38 CI 2.1 to 9.1). Other symptoms which were significantly different between the two groups are shown in Abstract PWE-044 table 1. There was no significant difference in the prevalence of constipation (OR 1.1), diarrhoea (OR 0.2), heartburn (OR 1.3), retrosternal chest pain (OR 2), vomiting (OR 1.2), or dyspepsia (OR 2).

Abstract PWE-044 Table 1 Comparison of GI symptoms

Symptom	% in JHS	% in non-JHS	OR (adj for age, sex)	CI
Alternating bowel habit***	63	26	4.6	2.3 to 9.2
Globus**	47	20	3.3	1.6 to 6.7
Dysphagia**	33	12	3.4	1.5 to 7.5
Regurgitation*	34	12	3.0	1.4 to 6.6
Nausea*	48	20	2.6	1.3 to 5.2
Postprandial fullness***	79	43	4.1	1.9 to 9.2
Early satiety**	60	29	2.9	1.5 to 5.8
Bloating***	88	47	6.3	2.3 to 16.9

*p<0.05, **p<0.005, ***p<0.001.

Conclusion This is the first comparative study of GI symptoms in JHS patients. They have significantly more upper GI symptoms, bloating and alternating bowel habit even when adjusting for age and sex. In view of the association between JHS and unexplained GI symptoms, it is important to consider the diagnosis of JHS in patients with intractable functional GI symptoms, to enable multidisciplinary management. Further studies are needed to determine the mechanism of symptoms in these patients.

Competing interests None declared.

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PWE-045 GASTROPARESIS—CLASSIFYING SEVERITY AND PREDICTING RESPONSE

doi:10.1136/gutjnl-2012-302514d.45

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Introduction Idiopathic gastroparesis is a chronic disorder of the stomach characterised by delayed gastric emptying in the absence of recognisable causative pathology such as mechanical obstruction or diabetes. Presenting symptoms include early satiety, vomiting and weight loss. Investigation usually includes gastric emptying studies, however significant overlap in gastric emptying times (GET) between normal and abnormal populations can make diagnosis difficult. Using a case series of patients managed at Gloucestershire Hospitals NHS Foundation Trust we explore the relationship between symptomatic presentation and GET, and attempt to correlate factors predicting successful response to treatment.

Methods Patients with clinical features of gastroparesis, and GET of over 100 min on nuclear medicine studies were identified from local radiology and clinic databases. Medical notes were scrutinised for

information regarding presenting symptoms, response to pharmacological treatment, requirement for nasojejunal feeding or surgical jejunostomy and subsequent tertiary referral for consideration of gastric neurostimulation. Patients were nominally split into those with prolonged and significantly prolonged GET. Specific clinical features and subsequent response to treatment were compared. Characteristics common to both groups were identified and outcomes of atypical treatment strategies noted.

Results The cohort (n=21, 18 female, 3 male, ages 18–74) was categorised on the basis of GET (Measured on nuclear study. Prolonged: n=13, GET<130 min. Significantly prolonged: n=8, GET>130 min). Whereas prevalence of most presenting symptoms was similar between groups weight loss and constipation were seen only in the significantly prolonged group (50% in both instances). Significant clinical improvement with oral domperidone and metoclopramide was disappointingly unusual, however was slightly more common in the prolonged group (43% vs 25%). GET was not a useful predictor of treatment response. Of four patients requiring jejunal feeding and tertiary referral for neurostimulation, two had only marginal prolongation in GET. Of four patients started on the 5HT4 agonist prucalopride for concomitant constipation, three noticed incidental improvement in gastroparetic symptoms. One patient reported improvement following Chinese acupuncture.

Conclusion The case series illustrates inherent difficulties in diagnosing and managing gastroparesis. It notes certain clinical features, such as weight loss and constipation, which may relate to more significant prolongations in GET. In isolation GET appeared to be a poor marker of disease severity and was not useful in reliably predicting treatment response or requirement for subsequent tertiary referral. Observations of symptomatic improvement with prucalopride, a drug currently unlicensed for this indication, suggest further study into its wider therapeutic use should be afforded.

Competing interests B Hudson: None declared, F Fayyaz: None declared, R Makins Conflict with: This author has previously acted as an advisor for shire pharmaceuticals.

PWE-046 THE DEVELOPMENT OF HUMAN ESOPHAGEAL PAIN HYPERSENSITIVITY IS ASSOCIATED WITH ANXIETY AND SYMPATHETIC NERVOUS SYSTEM ACTIVATION

doi:10.1136/gutjnl-2012-302514d.46

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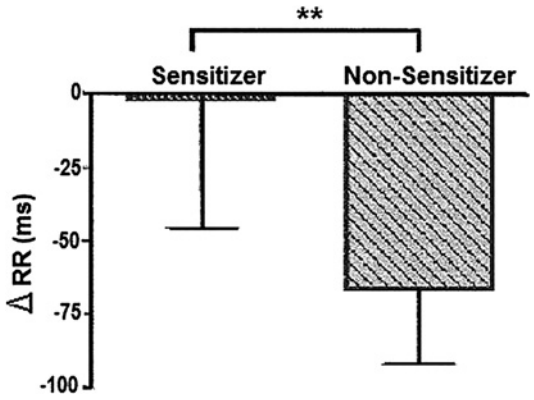
Introduction Experimental acid infusion in the distal oesophagus leads to secondary hyperalgesia in the proximal oesophagus in most healthy subjects but 30% remain resistant. The factors that mediate differences in sensitisation to acid are unclear and their study may help to understand risk factors for esophageal hypersensitivity in gastro-esophageal reflux disease. We aimed to determine the psychophysiological factors which predict the development of esophageal pain hypersensitivity (EPH) to acid infusion in healthy subjects.

Methods 52 healthy volunteers (mean age 29 yrs, range 19–49 yrs; 33 male) underwent psychological profiling for, anxiety, depression and personality type. Baseline pain thresholds (PT) to proximal esophageal electrical stimulation were measured before hydrochloric acid infusion (0.15 M) in the distal oesophagus for 30 min. This was followed by esophageal pain threshold measurements using visual analogue scales to electrical stimulation in the proximal, unexposed oesophagus at 30, 60 and 90 min. Parasympathetic (Cardiac Vagal Tone—CVT) and Sympathetic Nervous System (RR interval) responses were monitored throughout the study. Volunteers were classified as sensitisers if the proximal PT fell ≥6 mA after esophageal acidification.

Results Four subjects dropped out, 35 subjects (73%) sensitised to acid, and 13 subjects (27%) did not sensitise. There was no difference in the age, sex or in personality domains between sensitisers and non-sensitisers ($p>0.05$). Spielberg trait anxiety comparison indicated a trend, $p=0.08$ for sensitisers to be more anxious than non-sensitisers. At baseline there was no difference in CVT and RR interval between the two groups. During acid infusion the key difference in autonomic nerves system response was that in the sensitisers the RR interval was shorter in sensitisers than non-sensitisers (sensitisers: Δ1.7 SE±48.9 vs non-sensitisers: Δ66.1 SE±25.65. ΔRR interval difference 64.4 ms (SE ±37.3) $p=0.002$). Trait anxiety demonstrated a negative correlation with the RR interval $r=-0.35$ ($p=0.04$).

Conclusion There was a trend for sensitisers to be more anxious and at baseline there were no differences in the PNS and SNS parameters between the two groups. During acid infusion, the sensitisers had a lower RR interval than non-sensitisers suggesting a higher heart rate and therefore SNS tone. Trait anxiety showed a negative correlation with the RR interval suggesting those with higher anxiety had higher heart rate. Our results suggest that higher anxiety and SNS activation has a pro nociceptive effect on the development of post-acid infusion esophageal sensitisation. This may explain why individuals with anxiety or stress at the time of visceral injury or inflammation are more likely to go onto develop EPH.



Abstract PWE-046 Figure 1 Mean difference in ΔRR interval. **64.468 ms (SE ±37.305) p=0.0029.

Competing interests None declared.

PWE-047 FULL THICKNESS SMALL BOWEL BIOPSY IN GUT DYSMOTILITY. CASE SERIES OF EIGHT PATIENTS ILLUSTRATING THE BENEFITS AS A DIAGNOSTIC TOOL

doi:10.1136/gutjnl-2012-302514d.47

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Introduction Full thickness small bowel biopsies offer the opportunity to make a definitive diagnosis in patients with gastrointestinal dysmotility. However, our experience suggests that standard histological reporting may fail to achieve this diagnosis. This study compares local diagnoses to those of a national expert.

Methods We retrospectively reviewed eight sequential patients with symptomatic gastrointestinal dysmotility who were reviewed at a tertiary centre having had locally reported full thickness small bowel biopsies. Local histological reports were compared to those of a national expert. Patient notes were reviewed to determine the clinical impact of achieving a definitive diagnosis. Some patients were questioned regarding the impact of their definitive diagnosis.