more than one FGID. The commonest FGID was IBS, followed by FD. Functional bowel disorders accounted for 38.9% of FGIDs seen in clinic.

Number (n = 167) Percentage

Abstract PTU-136 Table 1

IBS	52	31.1
FD	38	22.8
Functional abdominal pain	20	12.0
Functional heartburn	20	12.0
Functional bloating	15	9.0
Functional diarrhoea	7	4.2
Constipation/slow transit	6	3.6
Defaecation disorder	5	3.0
Functional chest pain	4	2.4
Globus	3	1.8

Conclusion FGIDs accounted for over 40% of a Gastroenterologist's workload in clinic. Given that some of these conditions have a similar prevalence in the community, the disparity in prevalence among individual FGIDs seen in a Gastroenterology outpatient clinic suggests that General Practitioners are more comfortable dealing with some FGIDs than others.

Disclosure of Interest None Declared

PTU-137 'NUTRIENT SENSING IN THE HUMAN GUT: INVESTIGATION OF THE CO-LOCALIZATION RATE BETWEEN CASR, T1R1 AND GPR43 RECEPTORS WITH SATIETY PEPTIDES IN THE HUMAN ANTRUM, TERMINAL ILEUM AND ASCENDING COLON.'

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Introduction Increasing evidence from animal studies show that apical nutrient sensing receptors, expressed in gut enteroendocrine cells, play a key role in the release of satiety peptides^(1,2). Early human studies indicate a similar expression pattern of these receptors and role in peptide release⁽³⁾. In this study the anatomical relationship between amino acid sensing (CaSR), carbohydrate sensing (T1R1), and short chain fatty acid sensing (GPR43) receptors and appetite regulating peptides GLP-1, PYY, 5-HT was investigated in the human gut.

Methods Healthy full thickness human gut sections were incubated with primary and fluorescent secondary antibodies and they were viewed under the fluoroscopic microscope to investigate co-localization of the CaSR, T1R1 and GPR43 with the GLP1, PYY and 5HT.

Results The co-localization rate between CaSR and PYY, GLP1 and 5HT was 0%, < 1% and 43% in the antrum, 20%, 12% and 82% in the ileum and 26%, 14% and 91% in the colon, respectively. Co-localization of T1R1 and GLP1 was observed only in the antrum and the colon. GPR43 was not expressed.

Abstract PTU-137 Figure

Conclusion CaSR is expressed at protein level and is colocalized with PYY, 5HT and GLP1 in the human antrum, terminal ileum and ascending colon. T1R1 expression at protein level is very limited in all the tested tissues. GPR43 expression was not observed. The results suggest that CaSR is linked to PYY, GLP1 and 5HT release in the human gut, with data being stronger for the 5HT release.

Disclosure of Interest None Declared

REFERENCES

1. Sternini, *et al.* 2008. Enteroendocrine cells: a site of 'taste' in gastro- intestinal chemosensing. *Curr Opin Endocrinol Diabetes Obes* 15(1): 73–78.
2. Frenchet *et al.* 2000. The effects of intestinal infusion of long-chain fatty acids on food intake in humans. *Gastroenterology* 2000; 119: 943–8.
3. Page *et al.* 2012. Peripheral neural targets in obesity. *British Journal of Pharmacology*, 1568-RC.R1.

PTU-138 CENTRAL OBESITY AND WAIST BELT CAUSE PARTIAL HIATUS HERNIA AND SHORT SEGMENT ACID REFLUX IN HEALTHY VOLUNTEERS

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Introduction Epidemiology demonstrates an association between obesity, hiatus hernia and acid reflux but mechanism is unclear. We have examined the structure and function of the gastro-oesophageal (GO) junction in healthy subjects with and without obesity and the effects of elevating intra-abdominal pressure with belt.

Methods We recruited 8 subjects with normal (< 94 cm males < 80 cm females) and 8 with increased (> 102 cm males > 88 cm females) waist circumference, matched for age and gender. To allow accurate monitoring of location of the GO junction and its proximal movement during TLOSRS, a magnet (2x1 mm) was endoscopically clipped to the SCJ. Combined assembly of locator probe, high-resolution pH catheter and slimline manometer was passed nasally. After a standard meal, recording seated upright was continued for an hour. A waist belt was applied on a separate day throughout the entire recording. The effect of obesity was assessed by comparing obese vs. non-obese, both without belt. The effect of belt was assessed by comparing entire group with and without belt. The effect of belt in obesity was assessed by comparing belt-on vs. off in obese subjects. All results were in mean (SEM).

Results Location of the SCJ ($P = 0.006$) and pH step-down ($P = 0.01$) were displaced proximally in obese vs. non-obese but the diaphragm was not displaced as reflected by peak LOS pressure (pLOS) and pressure inversion point (PIP) (Figure). With belt-on vs. off, there was similarly proximal displacement of SCJ and pH step-down and also of the diaphragm ($P = 0.003$) and LOS (upper and lower border, $P = 0.01$ and 0.03 respectively). In obese subjects with belt-on vs. off, there was proximal displacement of SCJ, pH step-down and diaphragm. There was marked proximal migration of SCJ during TLOSRS with its magnitude being less in obese vs. non-obese (4.2 vs. 6.8 cm, $P = 0.04$) and belt-on vs. off (3.9 vs. 5.5 cm, $P = 0.01$), consistent with its resting position being already proximally displaced. At traditional site (5 cm above LOS), the mean % time pH < 4 was minimal (0 – 0.5%) in all studied groups, however, acid exposure above the SCJ but below upper border LOS was increased in belt-on vs. off (6.2% vs. 1.6%, $P = 0.01$) and in obesity with belt-on vs. off (9.7% vs. 3.0%, $P = 0.04$) but not obese vs. non-obese ($P = 0.2$).

Abstract PTU-138 Figure

Conclusion Our findings indicate that in asymptomatic volunteers, central obesity and waist belt cause partial hiatus herniation and that waist belt also causes short segment reflux.

Disclosure of Interest None Declared

Oesophagus

PTU-139 AN UNUSUAL COMPLICATION OF MYELODYSPLASIA

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Introduction Oesophageal haematoma is a rare clinical entity which is part of the spectrum of oesophageal injuries that includes Mallory-Weiss tear and Boerhave's syndrome. We present a case of oesophageal haematoma as the only complication of myelodysplasia.

Methods Case presentation An 81 year old gentleman presented to the emergency department with sudden onset chest pain. He ate a scone and went to bed. Half an hour later, he developed a sharp, retrosternal pain, radiating to the neck. The pain was worse by breathing and swallowing. His past medical history included myelodysplasia and ischemic heart disease. Physical examination was unremarkable. Laboratory investigations showed platelets count of 59×10^3 , D. Dimer of 2746 ng/ml. CT pulmonary angiography didn't show any pulmonary embolus but obstructed oesophagus, filled with food up to the middle part. Gastroscopy showed large bluish red mass extending between 23 cm and 40 cm in the Oesophageal lumen, originating from the submucosa. The mass didn't look malignant, therefore, biopsies were not taken. Clinical impression was submucosal oesophageal haematoma. Aspirin was stopped and he was treated conservatively, with liquid diet. Dysphagia improved and he was discharged 4 days later. Complete resolution was shown on follow up CT thorax and gastroscopy 6 weeks later.

Results Discussion The first published report of Oesophageal haematoma, from Marks and Keat in 1968, described a small mucosal breach as a constant feature. It is a result of haemorrhage within the oesophageal wall, usually in the submucosa and more often in the distal oesophagus as it is least supported by adjacent structures. The pathogenesis is unclear, Cribble and colleagues reviewed 91 patients with submucosal haematoma in literature. Precipitating factors were vomiting in 22% of cases, instrumentation in 17%, haemostasis abnormalities in 21% and spontaneous occurrence in 37%. Acute chest pain is a common presentation that should be differentiated from other causes as myocardial infarction. The typical triad of chest pain, haematemesis and dysphagia occurred only in one third of patients. CT typically, shows symmetric or asymmetric oesophageal thickening with concentric or eccentric oesophageal mass with well-defined borders. Gastroscopy is the diagnostic test of choice. Most cases resolve spontaneously within 1–3 weeks with conservative approach. Surgery is only indicated in complicated cases. Angiography is usually considered when endoscopic therapy failed or when surgery is risky.

Conclusion Diagnosis of Oesophageal haematoma can be achieved by interpreting symptoms in conjunction with imaging and endoscopy findings at presentation and follow up. Prognosis is favourable, as it usually resolves with conservative management.

Disclosure of Interest None Declared

Abstract PTU-139 Figure

PTU-140 THE EFFECT OF PROTON PUMP INHIBITORS (PPIS) ON OESOPHAGEAL ACID REFLUX USING A PROLONGED WIRE-LESS BRAVO PH MONITORING

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Introduction Recently prolonged catheter-free pH monitoring (Bravo®, Given Imaging, Yoqeam, Israel) up to 96 hours has become possible which enables more physiological evaluation of oesophageal acid exposure and its response to therapeutic interventions. This study applied this technology to measure acid reflux, and reflux related symptoms in patients with proven gastro-oesophageal reflux disease on and off high-dose PPIs. The potential utility of this methodology in guiding medical therapy was assessed.

Methods Patients with reflux symptoms were recruited prospectively from Mar.2012 to Oct.2012. PPI was stopped for 7 days prior to the Bravo capsule insertion. The 1st 48hr pH recording was performed off PPI and the 2nd 48hr was on twice daily PPI. The 48hr pH and symptom data for the two periods were compared, including percentages of acid exposure in total, upright and supine periods and symptom-reflux association for which heartburn (HB), chest pain (CP) and regurgitation (RG) were analysed. Data were expressed as median & interquartile. Wilcoxon signed-rank and Mann Whitney tests were used for statistical analysis (*P < 0.05; **P < 0.01; *** < 0.001).

Results Data from prolonged pH monitoring up to 96 hours were available from 89 patients of whom 36 (22 males, mean age 50, range 26–76 years old) with complete studies and pathological acid exposure in the 1st 48 hours were studied in detail. Acid reflux measurements on PPI therapy were greatly reduced when compared to those recorded off therapy (Table). 27/36 (75%) patients had normal acid exposure on PPI therapy. The overall number of HB and CP reported in the 2nd 48hr period was reduced by almost two thirds (13 (4–26) vs. 5 (2–14) **); however the number of these symptoms that were actually associated with acid reflux events was almost completely abolished (4 (2–14) vs. 1 (0–3) ***). No effect on volume RG was present.