had better mean comfort score (0.4 vs 2.0, p < 0.001) even with intravenous sedation during gastroscopy in 17 (55%) patients.

Conclusion Real-time viewing of oesophageal capsule potentially offers a less invasive means of variceal screening/surveillance with better patient comfort.

REFERENCE

1 DeFranchis *et al*. Esophageal capsule endoscopy for screening and surveillance of esophageal varices in patients with portal hypertension. *Hepatology* 2008;47:1595–1603

Disclosure of Interest None Declared.

PTU-028 FIRST HUMAN SERIES OF MAGNET ASSISTED CAPSULE ENDOSCOPY (MACE) IN THE UPPER GI TRACT USING THE NOVEL MIROCAM-NAVI SYSTEM

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Introduction Attempts in employing a simple technique of capsule endoscopy for visualisation of the upper GI tract has, thus far, been experimental, cumbersome and potentially expensive. We describe the first human series for comprehensive visualisation of the upper GI tract using the simple Intromedic MiroCam-Navi system. Our aim was to demonstrate the manoeuvrability of this magnetic capsule and evaluate its ability to completely visualise and maintain views in the upper GI tract.

Methods 26 volunteers observed a 12 hr overnight fast. 30 mins before the examination volunteers drank a preparation mixture of 20 mg of maxalon syrup with simethicone and pronase. After capsule ingestion, volunteers were allowed sips of water during the procedure. The MiroCam-Navi magnet was placed at strategic points on the body surface and rotated to hold and manoeuvre the capsule. Control was assessed by moving and holding the capsule for 1 min to visualise each of the following stations: lower oesophagus, cardia, fundus, body, incisura, antrum and pylorus and also by traversing across the stomach and through the pylorus. Total procedure time was taken from the moment of ingestion of the capsule to either reaching the duodenum, or after attempting a maximum of 10mins to traverse the pylorus. All volunteers subsequently underwent a standard upper GI endoscopy within 3 days.

Results Volunteers' median age was 38 yrs (range 26–45), median BMI 24.1 (range 19.4–38.2), median volume of water consumed 800 mls (range 200 mls–1500 mls) and median procedure time 24 min (range 12–39 min). Table 1 shows the success of clear visualisation of landmarks

The capsule could be held in the lower oesophagus, cardia, fundus, body and antrum in 92%, 88%, 92%, 88% and 81% occasions respectively. The capsule could be moved from the fundus to the antrum in all cases and traverse the pylorus in 50% (n = 13). Age ≥40 was associated with successful pyloric traversing (p = 0.04).

There was positive concordance for 8 out of 9 minor pathological findings with standard upper GI endoscopy. A small 4 mm submucosal lesion was missed by capsule endoscopy in the cardia of one volunteer where views were obscured.

Conclusion This is the first convincing demonstration of the potential value of MACE in the upper GI tract. There is a high degree of visualisation and control, with some improvement required for optimising fundal views and traversing the pylorus.

Disclosure of Interest None Declared.

Abstract PTU-028 Table 1

	Landmark visualised	Landmark not visualised
GOJ	92% (n = 24)	8% (n = 2)
Cardia	88% (n = 23)	12% (n = 3)
Fundus	96% (n = 25)	4% (n = 1)
Body	100% (n = 25)	0% (n = 0)
Incisura	96% (n = 25)	4% (n = 1)
Antrum	96% (n = 25)	4% (n = 1)
Pylorus	100% (n = 26)	0% (n = 0)

PTU-029 THE USE OF ENDOCLOT™ THERAPY IN THE ENDOSCOPIC MANAGEMENT OF GASTROINTESTINAL BLEEDING

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Introduction Endoclot™ is a non-toxic topical haemostatic powder consisting of absorbable modified polymers. We previously described our early experience using Endoclot™ as an adjunct haemostatic endoscopic therapy in 6 patients undergoing elective/emergency upper or lower gastrointestinal (GI) endoscopy.[1] We now present the largest case series to date describing the use of Endoclot™ therapy in GI bleeding.

Methods Endoclot™ was applied in upper GI bleed cases only when initial treatment with standard endoscopic dual therapies failed to achieve complete haemostasis. It was also applied to control bleeding post endoscopic mucosal resection (EMR) of rectal polyps. Endoclot™ was delivered by a dedicated applicator system onto bleeding areas. Successful Endoclot™ therapy was defined as achieving complete haemostasis during endoscopy, with no further bleeding within 30 days.

Results Endoclot™ was utilised for 18 patients (11 men, 7 women, mean age 74; upper GI bleed n = 15, lower GI n = 3). Haemostasis was achieved in 16/18 (89%) patients. Endoclot™ was successful in 13 patients with an upper GI bleed: mallory-weiss tear (n = 2); gastric ulcer, all Forrest classification 1b (n = 2); duodenal ulcer, all Forrest classification 1b (n = 8); duodenal adenoma (n = 1). Prior haemostasis combinations used were: adrenaline injection with diathermy (n = 11); adrenaline injection with clips (n = 1); adrenaline injection, diathermy and clips (n = 1). Endoclot™ was successful in 3 patients with lower GI bleeding after EMR. Prior haemostasis used was argon plasma coagulation (n = 1).

Endoclot™ therapy failed in 2 cases. In the first patient, haemostasis was achieved when Endoclot™ was applied to an originally suspected duodenal ulcer that continued to bleed despite adrenaline injection and diathermy. However, the patient developed melaena 2 days later, requiring repeat endoscopic therapy with adrenaline injection, clips and diathermy to regain haemostasis. Ensuing investigations showed an underlying gastrointestinal stromal tumour. The second patient had residual bleeding from a Dieulafoy lesion despite treatment with clips and sclerotherapy. Although Endoclot™ initially achieved haemostasis, the patient had melaena 3 days later. The recurrent bleed was controlled with adrenaline injection and banding of the bleeding vessel.

Conclusion Endoclot™ is a potentially effective method of achieving haemostasis in GI bleeding when standard endoscopic therapies have failed. Anecdotally, in this series it was noted to

be particularly useful to control oozing. Larger prospective controlled studies are required to further determine its exact role in upper and lower GI bleeding.

REFERENCE

1 Halkerston K *et al*. Early clinical eExperience of endoclot™ in the treatment of acute gastro-intestinal bleeding. *Gut* 2013;62:A149

Disclosure of Interest None Declared.

PTU-030 10 YEAR RETROSPECTIVE REVIEW OF ABDOMINAL TUBERCULOSIS FROM A LONDON TEACHING HOSPITAL: DIAGNOSTIC METHODS

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Introduction Abdominal tuberculosis (TB) is difficult to diagnose, due to non-specific symptoms and radiological, histological and endoscopic similarity to other conditions. It can mimic Crohn's disease and should always be considered as a differential diagnosis. There are significant risk of incorrectly diagnosing TB and committing patients to a prolonged course of toxic chemotherapy; or missing TB with public health implications and causing life-threathening disseminated TB when immunosuppressing patients. We sought to review the route to diagnosis of patients treated for abdominal TB, their sites of disease and the yield of various diagnostic modalities.

Methods A retrospective review of patients treated at St George's Hospital, London, for abdominal TB from June 2003 to August 2013 was conducted. Information was gained from electronic patient records and the hospital's tuberculosis database.

Results 65 cases of abdominal TB were identified. Average age was 42 years (range 18–97), with 49.2% females.

Pre-diagnosis: 49.2% underwent endoscopy, 64.6% ultrasound, 70.8% CT, 3.1% MRI and 10.8% small bowel series.

TB was cultured in 47.7% of patients, in the remaining 52.3% the diagnosis of abdominal TB was based on radiology, symptoms, suggestive histopathology, exclusion of other conditions or TB at another site.

The site was: peritonitis in 35.4%, enteritis in 27.7%, solid organ TB in 3.1%, combination of sites in 33.8%. 24.6% had co-existent pulmonary TB isolated on sputum culture.

The rate of culture positivity varied from modality of specimen acquisition as outlined in the table. 1 case was resistant to isoniazid and streptomycin.

Conclusion Confirming a diagnosis of abdominal TB is notoriously difficult, with the rate of positive culture below 50% in our series. Non-invasive imaging is commonly used and is useful to characterise the phenotype of abdominal TB and suggest sites for sampling, however it does not assist in obtaining a definitive diagnosis. Invasive testing is a cornerstone of diagnosis. Ascitic fluid and surgically acquired biopsies had a higher diagnostic rate than endoscopy. There was a low rate of endoscopic biopsies being sent for Microbiology. If TB is part of the differential diagnosis endoscopists must ensure microbiological samples are taken into normal saline solution and sent for mycobacterial culture.

Disclosure of Interest None Declared.

PTU-031 DUODENAL BIOPSY SPECIMEN COLLECTION AND DIAGNOSIS OF COELIAC DISEASE

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Introduction Coeliac disease is an immune-medicated, gluten sensitive enteropathy affecting 1% of the UK population.[1] Early diagnosis is important due to the potential long-term complications. Histological analysis along with serum biomarkers are used in diagnosis.[1] British Society of Gastroenterology (BSG) guidelines recommend a minimum of 4 duodenal biopsies in order to maximise detection rates.[2,3]

Objectives To determine the current practice relating to the number of duodenal biopsy specimens taken at endoscopy in Belfast HSCT compared to national guidelines, and to assess the correlation between serology results and subsequent diagnosis of coeliac disease.

Methods Retrospective review of the first 500 duodenal biopsy histology reports processed by Belfast Trust pathology laboratory in 2012. Positive/equivocal histological features based on criteria in BSG guidelines.[2]Serology results were checked via the Link Labs© system on all patients with pathology submitted.

Results 481 duodenal histology records were included in the study with 19 excluded. 225 specimens (46.7%) had **less** than the 4 recommended individual biopsy fragments. 26 patients were diagnosed with Coeliac disease based on histological findings, and a further 30 had 'equivocal' results. Patients with positive or equivocal coeliac histology had a higher percentage of 4 or more biopsies as compared to the whole group (80.7% and 77.3% respectively vs 53.3%). Overall **96%** with histological evidence of coeliac disease also had positive serology (n = 23). For those with 'equivocal' histology, serology was positive in 55% and negative in 45%. 2% of patients with negative histology had strongly positive serology.

Conclusion The number of duodenal biopsy specimens taken at endoscopy is below recommended guidelines in 46.7% of cases. There is a higher number of biopsy specimens taken in those with subsequently positive or equivocal histological features. 96% of cases where histology was diagnostic also demonstrated positive serology. 2% of patients with subsequently negative histology had strongly positive serology prior to endoscopy, and in these cases almost all had 4 or more individual pathology specimens.

This suggests that where strong clinical suspicion and positive biochemistry indicate a higher probability of coeliac disease, the endoscopist is inclined to take more biopsy specimens.

Abstract PTU-030 Table 1

	Number	Histology sent (%)	Histology suggestive of TB (%)	Microbiology sent (%)	Culture +ve (%)
Paracentesis	20	20 (100%)	7 of 9 (77.8%) without TB had lymphocytic effusion	19 (95%)	11 (57.9%)
Endoscopy	32	28 (87.5%)	14 (50%)	10 (31.3%)	3 (30%)
Surgery	16	15 (93.8%)	14 (93.3%)	13 (81.3%)	9 (69.2%)