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Disclosure of Interest None Declared.

PTU-032 TWO WEEK RULE REFERRALS FOR UPPER GI CANCER: RIGHT PATIENTS, WRONG TEST?

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Introduction Patients with alarm symptoms for upper gastrointestinal (GI) cancer or those over 55 years with persistent, recent onset dyspepsia are referred for a specialist opinion under the two week rule (TWR) referral pathway. Referrals are vetted by two consultants, and in the majority of cases patients are sent directly for upper GI endoscopy (OGD). The incidence of gastric cancer in patients undergoing TWR endoscopy is around 4%.¹ Alarm symptoms have very variable specificity and sensitivity for upper GI cancer.² This study aimed to analyse outcomes for both patients triaged direct to OGD and direct to clinic.

Methods A prospective analysis of patients referred to a single centre in South London (St George's Hospital) under the TWR pathway for upper gastrointestinal cancer was performed. Patients referred during two random four week periods in 2012 were identified. The referral form, endoscopy records, clinic letters, radiology reports and histology results were reviewed.

Results Data were analysed for 114 patients. Mean age was 63 years, with 23% of referrals aged under 55 years.

96 (84%) patients went direct to OGD, of which 3 (3%) had upper GI cancer and 4(4%) had significant non-malignant pathology. In the 27 (28%) patients under 55, no significant pathology was identified at OGD. Dyspepsia, dysphagia and weight loss were the commonest indications for the referrals.

47 (49%) patients had further imaging after endoscopy of which 18 (38%) had significant pathology leading to a change in management.

18 (16%) were seen directly in clinic following referral of which 11 (61%) went on to have further imaging. Of these patients, 45% had malignancy and 35% had significant abnormalities leading to a change in management.

Conclusion The yield of pathology at OGD undertaken as a first line investigation in patients referred via the TWR pathway is low, regardless of the referral criteria. However, imaging modalities appear to have a reasonably high yield of pathology in this group of patients. This suggests that General Practitioners are identifying the correct group of patients for referral, but that perhaps OGD is not the most appropriate first line test. Clinical review, as a first point of contact of patients referred via the

TWR pathway, is likely to facilitate a more guided investigation process, while reducing the number of endoscopies being undertaken, and has potential cost-saving implications.

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Disclosure of Interest None Declared.

PTU-033 THE UTILITY OF NARROW BAND IMAGING ENDOSCOPY IN IDENTIFYING POTENTIAL CAUSES OF IRON DEFICIENCY ANAEMIA IN THE ABSENCE OF ANY OVERT GI CAUSE

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Introduction IDA is prevalent in up to 5% of the developed world and endoscopy remains the most utilised investigation. Magnified white light endoscopy has been shown to accurately identify gastric atrophy, *H. pylori* gastritis and coeliac disease but the role of magnified NBI endoscopy (NBI-Z) in this context has not been evaluated. The study aim was to assess the ability of NBI-Z to make a real time diagnosis of these conditions compared to histology as the gold standard.

Methods This prospective cohort study recruited patients undergoing endoscopic evaluation for IDA. All procedures were performed with an Olympus video endoscopy system by clinicians with advanced imaging experience. Systematic NBI-Z imaging in parts of the duodenum and gastric mucosa were taken with corresponding biopsies. A previously validated Nottingham Type 1–4 classification system was used to classify the characteristic gastric mucosal pit pattern, and magnified morphological features were used to describe intestinal metaplasia and villous atrophy. This allowed for a real time diagnosis to be made for villous atrophy, gastric atrophy and *H. pylori* gastritis. The specimens were examined by a single blinded GI pathologist.

Results 105 patients were recruited over 3 years. Excluding those with an obvious cause (n = 11), a total of 94 patients were included in the final analysis. Female: male ratio was 1: 0.7, median age 66 years (range 21–85). 38% had significant comorbidities. At time of endoscopy 52% were taking iron therapy, 19% aspirin, 30% PPI and 4% NSAIDs. The median (range) anaemia parameters were: Hb 10.8g/dL (7.7–12.6), MCV 82fl (60–97), Ferritin 10g/L (1–379) and iron 7.5 µmol/L (1–22). 73% had the procedure under sedation with median doses of 2.5 mg midazolam and 25 mg pethidine.

Conclusion In patients with IDA, NBI-Z is highly specific in providing a real time diagnosis of gastric atrophy and coeliac disease.

Abstract PTU-033 Table 1 NBI performance (%) compared to histology with 95% confidence intervals

	Sensitivity	Specificity	Positive predictive value	Negative predictive value
Type 1 predicting normal	100 (81.4–100)	24.2 (18.8–24.2)	27.7 (22.5–27.7)	100 (77.7–100)
Type 2/3 predicting <i>H. pylori</i> gastritis	100 (76.9–100)	28.8 (22.6–28.8)	27.5 (21.1–27.5)	100 (78.4–100)
Type 4 predicting atrophy	92.9 (72.7–99)	93.3 (72.7–99.4)	92.9 (72.7–99.4)	93.3 (74.5–94.4)
Predicting Intestinal Metaplasia	50 (15.8–65.8)	98.1 (94.4–99.9)	75 (23.7–98.7)	94.6 (91–96.3)
Predicting Villous Atrophy	66.7 (13.6–97)	98.7 (96.6–97)	66.7 (13.6–97)	98.7 (96.6–99.9)

It is a useful technique to exclude *H. pylori* gastritis. The clinical relevance is that this technique allows for targeted biopsies, reducing the miss rate and thus increasing the diagnostic yield.

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PTU-034 DOUBLE BLIND RANDOMISED CONTROLLED TRIAL OF MAGNETICALLY STEERABLE GASTRIC CAPSULE ENDOSCOPY (MSGCE) VS. CONVENTIONAL GASTROSCOPY FOR DETECTION OF BEADS IN A PORCINE STOMACH

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Introduction Gastroscopy is uncomfortable for patients and incurs the risks of intubation and sedation. Capsule endoscopy is well tolerated and recently a handheld magnet has been developed to enable steering of the capsule to visualise all areas of the capacious stomach. Our preliminary data suggests that a novice can identify all beads sewn into a porcine stomach within 4 min after 40 consecutive examinations.¹ We performed a double blind randomised controlled trial comparing MSGCE with conventional gastroscopy in the detection of beads in the same model.

Methods Ex-vivo porcine stomach models were used in a standard housing unit. MSGCE was performed according to a standard protocol using 1000mls of water to distend each stomach and a combination of positional change (head down, 30° left lateral, 30° right lateral) and magnetic control to steer the capsule. Each model was examined in a standard fashion by gastroscopy and subsequently MSGCE using MiroCam Navi (Intromedic Ltd). Two blinded investigators (MFH and IR) competent to perform both procedures were allocated randomly to perform either gastroscopy or MSGCE on each model.

This was performed as a non-inferiority study with an expected sensitivity of 90% for both (0 estimated difference), a specificity of 100% and a difference of interest 10 percentage points (i.e., 80% is significantly worse). A sample size of 85 beads was needed to achieve this statistical power. Twelve porcine stomachs were prepared with beads as follows: 2 × 0 beads, 2 × 1 bead, 2 × 2 beads, 2 × 3 beads, 2 × 4 beads, 2 × 5 beads, giving a total of 30 beads. The study was conducted in three rounds, giving a total of 90 beads to be identified. Number of beads identified and procedure duration was recorded.

Results Gastroscopy correctly identified 88% (79/90) beads, MSGCE correctly identified 89% (80/90) beads and thus is non-inferior to gastroscopy in this setting (95% CI 82.54–95.46%). Mean examination times for gastroscopy and MSGCE were 3.34 min and 9.90 min respectively. MSGCE overestimated the number of beads present on a single occasion.

Conclusion MSGCE is equivalent to conventional gastroscopy in the detection of beads placed in a porcine stomach model. Procedure duration was longer for MSGCE compared to gastroscopy. Further studies in humans are necessary to define the scope and utility of this exciting new technique.

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Disclosure of Interest None Declared.

PTU-035 SINGLE CENTRE EXPERIENCE WITH ENDOCLLOT POWDER SPRAY FOR UPPER GASTROINTESTINAL BLEED

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Introduction Endoclot® (EPI) and ‘Hemospray’ (Wilson Cook) are haemostatic powders marketed for endoscopic use. The

Abstract PTU-035 Table 1

Age and sex	Endo diagnosis	Endotherapy	Co morbidity	Outcome	30 days mortality Y/N
63F	DU	Adrenaline + balloon tamponade +	DM, stroke, CKD, COAD	Haemostasis	Y
92F	DU	Endoclot	Leukaemia, TIA, HT, asthma	Haemostasis;died 11days later,	N
85M	Multiple	Adrenaline + Endoclot (partial)	CVA, COPD, CKD	pneumonia	Y
87M	DU	Adrenaline + clips + gold probe +	CVA, CKD, AF, HT	Haemostasis	N
88M	DU	Endoclot x2	MI, AF	Died 3 days later due to sepsis	N
83M	DU	Endoclot	COPD, CVA, AF, HT, CKD,	Died 5 days later, pneumonia	Y
	DU	Adrenaline + Endoclot	Carotid endarterectomy	Died 19 days later due to	
		Adrenaline + Goldprobe +		cardiac failure	
		Clips + Endoclot			
63M	Bleeding lymphoma – 4th part of duodenum	Endoclot via enteroscope	End stage follicular lymphoma	Died next day	N
89F	GU	Adrenaline + Endoclot	Cholangitis	Haemostasis	Y
67F	Severe bleed after gastric polyp biopsy	Adrenaline + Endoclot	DM, CKD, HT	Haemostasis	Y
77M	Gastric Erosions/ Gastric Lymphoma	Adrenaline + Goldprobe + Endoclot	Lymphoma	Died 5 days later, late rebleed	N
81M	GOJ Tear Post ERCP	Adrenaline + Endoclot		Haemostasis	Y
83M	GIST	Endoclot	AF, MI, CVA	Haemostasis	Y