

biopsies, and the procedure could not be completed in nine cases. Five patients with no duodenal biopsy taken at endoscopy had negative coeliac serology prior to OGD. 19/206 (9.2%) patients did not have duodenal biopsies taken at endoscopy, despite an indication for biopsy. 48/206 (23.3%) patients referred for an OGD with anaemia had coeliac serology performed (34 prior to OGD and 14 after OGD). All results were negative. 3/134 duodenal biopsies showed features suggestive of CD (tTG negative) and 11/134 (8.2%) duodenal biopsies showed lymphocytic duodenitis (LD) (normal villous architecture and increased intraepithelial lymphocytes >25/100 enterocytes) (5/11 tTG sent and negative, 6/11 not done).

Conclusion Coeliac disease is a major cause of iron deficiency anaemia in the UK. Tissue transglutaminase antibody is a simple, non-invasive test, which was underused in our cohort. It was performed prior to upper GI endoscopy in only 16.5% of patients. Duodenal biopsies were taken in the majority of cases when indicated in anaemia, though there is room for improvement. While 10.4% had biopsies suggestive of CD, serology to confirm this was only performed in 57.1%.

Competing interests None declared.

REFERENCE

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PWE-184 PREVALENCE, MANAGEMENT AND OUTCOMES OF PATIENTS WITH COAGULOPATHY FOLLOWING ACUTE NON-VARICEAL UPPER GASTROINTESTINAL BLEEDING

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Introduction There is increasing interest in optimising transfusion strategies in patients with major haemorrhage. In other models of haemorrhage such as trauma, an endogenous coagulopathy early in the disease course is associated with increased mortality, with subsequent implications for transfusion management. Non-variceal upper gastrointestinal bleeding (NVUGIB) is a leading cause of admission with haemorrhage and for transfusion of blood components. The impact of coagulopathy in this group is poorly characterised. We characterised in patients presenting with NVUGIB 1) the epidemiology of a key marker of coagulopathy, a prolonged International Normalised Ratio (INR) and the association of coagulopathy with patient survival and other key clinical outcomes.

Methods We used data from the 2007 UK national audit of acute upper gastrointestinal bleeding (AUGIB) and the use of blood. We included those patients with endoscopically confirmed NVUGIB and excluded those with documented cirrhosis. Coagulopathy was defined as an INR>1.5. A logistic regression model was used to compare risk adjusted clinical outcomes in those patients with coagulopathy vs those without coagulopathy.

Results An INR at presentation was performed in 61% (2709/4478) of patients with NVUGIB. The prevalence of coagulopathy (INR ≥1.5) was 16.4% (444/2709). Patients with coagulopathy were older, more likely to present with shock (45% vs 36%), have a higher clinical Rockall (4 vs 2), more likely to have high risk stigmata at endoscopy and more likely to be transfused both red blood cells (70% vs 48%) and FFP (35% vs 3%). 8% (220/2709) of all patients who had an INR recorded received FFP transfusion during their admission. In those patients with an INR of

Conclusion An early coagulopathy is prevalent in patients presenting with acute NVUGIB and is independently associated with in-hospital mortality. The wide variation in the use of FFP to correct this suggests clinical uncertainty regarding best practice.

Competing interests None declared.

Endoscopy III

PWE-185 THE DIAGNOSTIC YIELD OF DUODENAL BIOPSY IN COELIAC DISEASE RELATIVE TO CLINICAL INDICATIONS AND SEROLOGY FINDINGS: AN ANALYSIS OF 2109 PATIENTS

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Introduction Serology testing with IgA tissue transglutaminase (TTG) is relatively cheap and non-invasive which NICE guidelines for coeliac disease (CD) advocate as a first choice test for patients with unexpected weight loss or anaemia.¹ Referral for duodenal biopsy is indicated if serology is positive or if negative but there is still a clinical suspicion of CD. The sensitivity, specificity and negative predictive value for IgA TTG have been found to be 90.9%, 90.9% and 99.6% respectively thus demonstrating IgA TTG to be a sensitive marker for CD.² Our aim was to evaluate the diagnostic yield of duodenal biopsies relative to clinical indications and serology findings.

Methods This is a retrospective review of 2109 adult patients from the Heart of England Trust, between January 2009 and December 2010. Coeliac serology (IgA TTG), immunoglobulin levels and D2 biopsy results were recorded for patients referred for upper gastrointestinal endoscopy for anaemia (n=1550) or weight loss (n=559).

Results In the anaemia group, 7/27 (25.9%) with positive serology had a negative biopsy, 19/27 (70.4%) with positive serology had a positive biopsy and 1/27 (3.7%) with positive serology had no biopsy taken. 6/27 (22.2%) with positive biopsy had negative serology. In the weight loss group, 4/12 (33.3%) with positive serology had a negative biopsy, 5/12 (41.7%) with positive serology had a positive biopsy and 3/12 (25.0%) with positive serology had no biopsy taken. 7/14 (50.0%) with positive biopsy had negative serology.

Conclusion Our review demonstrates that anaemia or weight loss are good indicators to attempt to diagnose CD by duodenal biopsy. If we corrected for the diagnosis of upper GI cancer, in our cohort, an additional 14 cases of CD would have been diagnosed if all patients had a duodenal biopsy. Furthermore, a significant proportion of patients in our study with a biopsy positive for CD had negative serology, strengthening the argument that all such patients should have a duodenal biopsy. Rates of serology testing were poor. However, we suggest regardless of serology patients referred with anaemia or weight loss should have a duodenal biopsy to look for evidence of coeliac disease.

Abstract PWE-185 Table 1 Diagnostic yield of duodenal biopsy according to indication

Indication	Serology tested	TTG positive	IgA tested	Duodenal biopsy	Diagnostic of CD
Anaemia	492/1550	27/492	210/492	1068/1550	27/1068
	32.8%	5.4%	42.6%	68.9%	2.5%
Weight loss	210/559	12/210	113/210	410/559	14/410
	37.6%	5.7%	53.8%	73.3%	3.4%

Competing interests None declared.

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PWE-186 **ISCAN IN THE EVALUATION OF SMALL COLONIC POLYPS: OUTCOMES, LEARNING CURVE FROM A LARGE PROSPECTIVE SERIES**

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Introduction Indigocarmine (IC) and narrow-band imaging have been shown to be effective in the in vivo diagnosis of small colonic polyps. The learning curve for achieving high level of accuracy with a new technology for real-time diagnosis of small colonic polyps has not been determined.

Methods We aimed to assess the learning curve of a novel electronic in vivo diagnosis technology (Pentax iScan) for an expert endoscopist. Patients presenting for screening colonoscopy through the UK Bowel Cancer Screening Programme were prospectively recruited. All colonoscopies were performed by a single expert endoscopist, with extensive experience in in vivo diagnosis, using Pentax EC-3890Li 1.2 Megapixel HD colonoscopes and EPKi processor. Polyps <10 mm in size were assessed sequentially using three modalities (1) White light HD endoscopy (WL), (2) Pentax iScan surface and tone enhancement, (3) IC chromoendoscopy. Optical magnification was not used. Predicted histology (non-neoplastic, adenoma, cancer) was recorded for each modality and compared to the final histopathological diagnosis. Results were analysed for sensitivity and specificity for neoplasia, and overall accuracy. To assess any learning effect results were analysed in three sets of 100 consecutive polyps.

Results A total of 309 polyps were eligible for inclusion in the study. Mean polyp diameter was 4.1 mm, median 3 mm. 133 polyps were in the proximal colon and 176 in the distal colon. 109 polyps were non-neoplastic, 199 were adenomatous and one contained adenocarcinoma. Sensitivity and overall accuracy improved significantly for all three imaging modalities in the 3rd set of polyps as compared to sets 1 and 2 ($p < 0.05$). In Set 3 overall accuracies of 92.7%, 93.6% and 93.6% were achieved with WL, iScan and IC respectively. There were no significant differences in overall accuracy between the three modalities in Set 3. Negative predictive values for adenomatous histology of recto-sigmoid polyps ≤ 5 mm for the entire study were 96.5%, 93.4% and 98.3% for WL, iScan and IC respectively.

Abstract PWE-186 Table 1

	WL	iScan	IC
Set 1 (Polyps 1–100)			
Sensitivity	0.788	0.868	0.904
Specificity	0.708	0.766	0.729
Accuracy	0.750	0.820	0.820
Set 2 (Polyps 101–200)			
Sensitivity	0.866	0.851	0.881
Specificity	0.758	0.758	0.788
Accuracy	0.830	0.820	0.850
Set 3 (Polyps 201–309)			
Sensitivity	0.964	0.988	0.976
Specificity	0.808	0.769	0.808
Accuracy	0.927	0.936	0.936

Conclusion (1) Even in expert hands there is a significant learning curve for using a new technology for the in vivo diagnosis of small colonic polyps, with improvement in performance over the first 200 polyps assessed. (2) Excellent results can be achieved once the new technology has been mastered. (3) This is the first report of results achieved with high-definition white light endoscopy which are comparable with electronic chromoendoscopy and IC chromoendoscopy.

Competing interests None declared.

PWE-187 **COLONIC BIOPSIES TO DETECT MICROSCOPIC COLITIS IN PATIENTS WITH DIARRHOEA AND "NORMAL" COLONOSCOPY: WORTH THE EFFORT?**

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Introduction Patients investigated for diarrhoea often have macroscopically normal colonoscopies. Biopsies are, however, required in order to diagnose microscopic colitis (MC). Obtaining colonoscopic biopsies for persistent diarrhoea is an auditable JAG standard. The aim of this study, carried out in a single large NHS Teaching Hospitals Trust was (1) To measure the incidence of MC in patients with diarrhoea who had a "normal" colonoscopy. (2) To examine whether the discipline of the colonoscopist affected whether biopsies were taken in this situation or not. (3) To assess which biopsy protocols were being used.

Methods An analysis was performed of all colonoscopies with the indication of diarrhoea, with normal findings, undertaken in 2010. Interrogation of the endoscopy recording system (ERS), looked at endoscopist discipline, if biopsies were taken, biopsy sites and histology results.

Results A total of 4753 colonoscopy records were examined, of which 750 (15.8%) were performed for diarrhoea. 313/750 (41.7%) were described as being entirely normal. Of the 313 "normal" colonoscopies, 132 (42.2%) were performed by physicians; 40 (12.8%) surgeons; 124 (39.6%) nurses; 17 (5.4%) not specified. 294 (93.9%) colonoscopies had biopsies taken and MC was confirmed histologically in 14 (4.8%). Among the different professional groups, there was variation in the frequency of obtaining biopsy specimens: physicians 126/132 (95.5%), surgeons 35/40 (87.5%) and nurses 118/124 (95.2%). The difference between physicians and surgeons was not statistically significant ($\chi^2 = 3.55$, $p = 0.06$). Positive biopsy for MC was similar between the different groups: physicians 5 (3.8%), surgeons 2 (5.0%), nurses 5 (4.0%) ($p = \text{NS}$). Of the patients who did have biopsies performed, 274/294, (93%) had both right and left colon sampled.

Conclusion The vast majority (93.9%) of patients presenting with diarrhoea and a normal colonoscopy in our unit are having colonic biopsies performed to exclude a diagnosis of microscopic colitis. The histology positivity rate was 5%, comparable to similar published series. A majority of all professional colonoscopists perform colonic biopsies appropriately in the setting of diarrhoea and normal colonoscopy. There is variability, but this is not statistically significant.

Competing interests None declared.

PWE-188 **USING A "CONVERSION FACTOR" TO ESTIMATE ADENOMA DETECTION RATE**

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