

and EMA to detect coeliac disease, using duodenal biopsy as the gold standard.

**Results** 235 patients were recruited (145 female, median age 48, range 17–86). Of these, 51 had newly diagnosed coeliac disease and 184 were controls with a normal duodenal biopsy. The sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) for the individual coeliac serological test are demonstrated in Abstract PWE-120 table 1.

**Abstract PWE-120 Table 1** Diagnostic accuracy of coeliac serological tests

Serological test	Sensitivity	Specificity	PPV	NPV
TTG	92%	84%	61%	98%
EMA	80%	98%	93%	95%
TTG POCT	67%	97%	87%	91%

**Conclusion** The Negative Predictive Value of the transglutaminase-based POCT may allow us to adopt this into clinical practice and potentially reduces the number of duodenal biopsies which would be taken at endoscopy.

**Competing interests** None declared.

## PWE-121 DOES CHROMOENDOSCOPY ALLOW AVOIDANCE OF DUODENAL BIOPSY IN COELIAC DISEASE?

doi:10.1136/gutjnl-2012-302514d.121

M Kurien,\* K E Evans, I Chalkiadakis, M F Hale, D S Sanders. *Department of Gastroenterology, Royal Hallamshire Hospital, Sheffield, UK*

**Introduction** Chromoendoscopy is increasingly being used to detect, localise and characterise mucosal abnormalities seen at gastro-intestinal endoscopy. The endoscopic features of coeliac disease may be difficult to recognise and are reported to lack sensitivity and/or specificity. Thus many UK centres undertake routine duodenal biopsy or have a low threshold for duodenal biopsy in order to ensure detection of patients with coeliac disease. Other than one Italian investigator group there has been limited work evaluating the role of duodenal dye spray in patients undergoing endoscopy. We aimed to determine if dye spray improved identification of characteristic endoscopic markers of coeliac disease and whether this would enhance a biopsy avoidance strategy.

**Methods** Patients undergoing oesophagoduodenoscopy (OGD) with duodenal biopsies were prospectively recruited between January and November 2011. Four experienced endoscopists undertook the endoscopic examinations, with endoscopic findings reported both before and after the use of indigo carmine dye spray in the second part of the duodenum (D2). Endoscopic markers reported suggestive of coeliac disease included reduction or absence of duodenal folds, scalloping, mosaic pattern, visible blood vessels and nodularity of the duodenal folds. Thereafter, in accordance with the current gold standard four duodenal biopsies were taken and histology compared with reported endoscopic findings.

**Results** 83 patients were recruited (55 female: 28 male, median age 49 years). Of these, 33 (40%) had coeliac disease (24 newly diagnosed, nine previously treated) and 50 were controls. Three of the treated coeliac patients had persistent Marsh 3a–3c changes. In patients with coeliac disease (n=33), endoscopic features of coeliac disease were identified in 16/33 (48%) of patients. The addition of dye spray in D2 accentuated these features but only highlighted endoscopic markers in two further cases (18/33, 55%), which was not statistically significant (p=0.81). However, a significant difference was identified when comparing endoscopic markers in the coeliac group with the control group (p<0.001), both before and

after the use of dye spray (Abstract PWE-121 table 1). Sensitivity, specificity, positive and negative predictive values of chromoendoscopy to detect coeliac disease were 55%, 100%, 100% and 77% respectively.

**Abstract PWE-121 Table 1**

	n	Coeliac endoscopic markers seen	
		Without dye	With dye
Coeliac group	33	16	18
Control group	50	0	0

**Conclusion** The preliminary data from this study suggests there is no additional benefit of using dye spray in patients with suspected coeliac disease. Our data suggests that our current practice of a low threshold for duodenal biopsy may still be the optimal way of diagnosing patients with coeliac disease due to the low sensitivity of endoscopic markers.

**Competing interests** None declared.

## PWE-122 HOW RELIABLE IS SEROLOGICAL TESTING IN THE DIAGNOSIS OF COELIAC DISEASE?

doi:10.1136/gutjnl-2012-302514d.122

N Hansi,\* S Grainger. *Department of Gastroenterology, King George Hospital, London, UK*

**Introduction** Coeliac disease is an autoimmune disorder of the small bowel with a prevalence as high as 1:100 in the UK and Ireland. The gold standard for diagnosis is to identify the characteristic histopathological changes (based on the modified Marsh criteria) from an adequate small bowel biopsy. However non-invasive serological blood tests are often the first line investigation. Serological testing is reported to have both high sensitivity and specificity with the sensitivity and specificity of IgA anti-tissue transglutaminase antibodies (tTG) being higher (99% and >90%) than IgA anti-gliadin (46–100% and 86–100%) and IgA anti-endomysium (74–100% and 91–100%). However, in a study of 26 UK patients with coeliac disease Smith-Laing *et al* (Clinical Medicine 2009) raised the issue of limitations of serological testing reporting discrepancy between histology and anti-tTG in as many as 38.5%. Given our reliance on serological testing the results were of concern. The objective of this retrospective study was to analyse the results of serological tests for coeliac disease in consecutive patients with duodenal biopsies confirming the diagnosis.

**Methods** Results of duodenal biopsies which fulfilled the histological criteria for coeliac disease between 2005 and 2010 at two UK district general hospitals (King George hospital, Ilford and Queen's hospital, Romford) were correlated with coeliac serological tests. IgA tTG antibodies, IgA anti-endomysium antibodies, and serum IgA levels were recorded. Serological testing done before or within a month of biopsy was noted. Reference range for tTG was >15 U positive.

**Results** There were 182 positive duodenal biopsies. Serological tests were not performed in 35 patients. Of the remaining 147, sixteen were excluded (IgA not measured—6, IgA deficient—3, serological testing done more than a month after biopsy date—6, other—1). Complete data were therefore available in 131. Nine patients with confirmed coeliac disease had anti-tTG levels below the diagnostic range. Of these, three had positive anti-endomysium antibody. Thus anti-tTG levels suggestive of coeliac disease were found in 122 of 131, demonstrating sensitivity of 0.93 with combined sensitivity of tTG and anti-endomysium of 0.954.

**Conclusion** This retrospective study reassuringly demonstrates that there is not a significant number of serologically negative but