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

<table>
<thead>
<tr>
<th>Serological test</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>PPV</th>
<th>NPV</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTG</td>
<td>92%</td>
<td>94%</td>
<td>61%</td>
<td>98%</td>
</tr>
<tr>
<td>EMA</td>
<td>80%</td>
<td>98%</td>
<td>93%</td>
<td>95%</td>
</tr>
<tr>
<td>TTG POCT</td>
<td>67%</td>
<td>97%</td>
<td>87%</td>
<td>91%</td>
</tr>
</tbody>
</table>

**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.

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.

**Abstract PWE-121 Table 1**

<table>
<thead>
<tr>
<th></th>
<th>Coeliac endoscopic markers seen</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Without dye</td>
</tr>
<tr>
<td>Coeliac group</td>
<td>33</td>
</tr>
<tr>
<td>Control group</td>
<td>50</td>
</tr>
</tbody>
</table>

**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 55 patients. Of the remaining 147, sixteen were excluded (IgA not measured—6, IgA deficient—5, serological testing done more than a month after biopsy date—5, 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 0.854.

**Conclusion** This retrospective study reassuringly demonstrates that there is not a significant number of serologically negative but after the use of dye spray (Abstract PWE-121 table 1). Sensitivity, specificity, positive and negative predictive values of chromendo-

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**Conclusion** This retrospective study reassuringly demonstrates that there is not a significant number of serologically negative but after the use of dye spray (Abstract PWE-121 table 1). Sensitivity, specificity, positive and negative predictive values of chromendo-
positive biopsy cases. A proportion of patients will not have sero-
logical tests going straight to endoscopy as first line investigation for
their anaemia. Serological testing remains useful in primary care and
for physicians to diagnose coeliac disease; however it is important to
be aware of the small number of cases (approximately 8%) that will
be missed when relying on serology alone.

Competing interests None declared.

PWE-123 RESPONSE TO BILE ACID SEQUESTRANTS IS POOR IN
PATIENTS WITH EQUIVOCAL SEHCAT RESULTS

doi:10.1136/gutjnl-2012-302514d.123

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Manchester, Salford Royal Foundation Trust, Manchester, UK; 2Department of
Gastroenterology, Salford Royal Foundation Trust, Manchester, UK; 3Department of
Nuclear Medicine, Salford Royal Foundation Trust, Manchester, UK

Introduction Bile acid malabsorption (BAM) is a common cause of
chronic diarrhoea that can be diagnosed by the SeHCAT test and
treated with bile acid sequestrants (BAS). The purpose of this study
was to clarify the use and efficacy of BAS in the treatment of patients
with diarrhoea and equivocal SeHCAT results.

Methods Case records were reviewed over a 6-year period for
patients investigated by SeHCAT with a positive (≥8%) equivocal
(>5% and <16%) or negative (<16%) retention result. Patients were
sub-characterised into the following groups. Group 1: terminal ileum
Crohn's disease, (pre or post resection) n=51. Group 2: diarrhoea
predominant irritable bowel syndrome (D-IBS) n=159. Group 3:
BAM associated with other gastrointestinal disease n=51, of which
cholecystectomy (n=37), coeliac disease (n=1), chronic pancreatitis
(n=1), bacterial overgrowth (n=2), diabetes (n=4) and other
gastrointestinal surgeries (n=6). Group 4: terminal ileum disease
plus cholecystectomy n=5. Patients' sex and age were recorded. Use
of BAS (colestiramine or colesevelam) and response were noted.

Results SeHCAT tests were performed in 264 patients and 39 (15%) patients
were found to have equivocal results while 104 (39%) had positive
results. Although 28/39 (72%) patients with equivocal results were
offered treatment with BAS, information on response to treatment
was only available in half of these patients (n=14). In comparison,
there was a higher rate (75%) of follow-up in the patients with positive
SeHCAT results with information on response to treatment being
available in 73 of the 97 patients offered BAS treatment. There was
a marked difference in response to BAS therapy between the two
groups. A successful response was noted in only 36% (n=5) of patients
with equivocal SeHCAT results while 66% (n=48) of patients with positive
SeHCAT results had a successful response. The difference in treatment response was also most
significant among the patients in group 2 with D-IBS. 75% (n=24/33)
of the patients with positive SeHCAT results in group 2 responded to
BAS therapy while only 33% (n=3/9) of those with equivocal
SeHCAT results in this same group had a successful response.

Conclusion This retrospective study indicates that there is a poorer
response to bile acid sequestrants among patients with equivocal
SeHCAT results, however it is possible there was a disproportionate
number of non-responders attending for follow-up in this group.
More comprehensive follow-up is needed in patients with equivocal
SeHCAT results in the future to help determine whether BAS
treatment in this lower response group is cost-effective.

Competing interests None declared.

REFERENCE
idiopathic bile acid malabsorption as diagnosed by SeHCAT scanning in patients with
diarrhoea-predominant irritable bowel syndrome. Aliment Pharmacol Ther

PWE-124 COLESEVELAM USE AND EF FCACY FOR BILE ACID
MALABSORPTION

doi:10.1136/gutjnl-2012-302514d.124

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Gastroenterology, Salford Royal Foundation Trust, Manchester, UK; 3Department of
Gastroenterology, Salford Royal Foundation Trust, Manchester, UK; 3Department of
Nuclear Medicine, Salford Royal Foundation Trust, Manchester, UK

Introduction Bile acid malabsorption (BAM) is a common cause of
chronic diarrhoea that can be diagnosed by the SeHCAT test and
treated with bile acid sequestrants (BAS). Colestiramine, the most
commonly used BAS, is often poorly tolerated due to side effects
including nausea, vomiting, flatulence and abdominal pain. Colese-
velam, has recently been advocated, as a second line BAS therapy in
patients who poorly tolerate colestiramine. The purpose of this
retrospective study was to determine the current use and efficacy of
colestvelam in bile acid malabsorption.

Methods Case records were reviewed over a 6-year period for
patients found to have a positive SeHCAT test (defined as retention
≥8%). The age and sex, indication for SeHCAT test, use of BAS and
clinical response were noted.

Results SeHCAT tests were performed in 264 patients, of which a
positive SeHCAT was found in 104 (39%). Data on use and response
to BAS were found in 73. The majority (n=68) were given coles-
tiramine as first line treatment with only five receiving colesvelam
first line. Symptom improvement with colestiramine occurred in
41/68 (60%). 27/68 (40%) failed colestiramine therapy of which 2/5
were due to poor tolerance. 12 of these were then offered second
line therapy with colesvelam. 42% of the 12 patients (n=5) who were
given colesvelam after failing to respond to or tolerate coles-
tiramine had a positive response to colesvelam second line. None of
the patients reported poor tolerance to colesvelam. Overall BAS
response was slightly higher among male patients (76% success in
males vs 68% success in females) but there were no differences
between different age groups.

Conclusion This retrospective study indicates a good response rate
and good tolerance to colesvelam in colestiramine non-responders;
however its use as second line therapy was low for reasons that are
unclear. Further study is needed to establish whether colesvelam
might have better efficacy than colestiramine as first line therapy
and to raise awareness of its availability.

Competing interests None declared.