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Small bowel

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DOES DUODENAL HISTOLOGY YIELD ANY OTHER DIAGNOSES FOR IRON DEFICIENCY ANAEMIA APART FROM COELIAC DISEASE?

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Introduction: The prevalence of iron deficiency anaemia (IDA) is 2-5% in the developed world. The BSG IDA guidelines recommend screening for coeliac disease (CD) with serology, and those tested positive should undergo duodenal biopsy to assess for villous atrophy (VA). The availability of pre-endoscopy serology in IDA has been shown to be 30%, thus often committing clinicians to routinely biopsy the duodenum. We aimed to explore whether any causes other than CD would be found on duodenal biopsy in IDA. We also aimed to evaluate the role of Simtomax, an IgA/G-deamidated gliadin peptide based point of care test (POCT), in detecting CD in IDA in the endoscopy setting.

Methods: Group 1: we retrospectively reviewed the duodenal histology of 153 patients with IDA attending a non coeliac specialised IDA clinic in 2013-14. Group 2: we prospectively recruited 133 patients with iron deficiency attending for a gastroscopy to our research gastroscopy list. All patients undertook Simtomax, endomysial antibodies (EMA), tissue transglutaminase (TTG), total IgA, and 5 duodenal biopsies. The results were compared against histology.

Results: The duodenal histology in group 1 yielded no cause for the IDA apart from CD. Two patients had VA- 1 with positive serology and hence was diagnosed with CD; the other patient never had a serology to confirm the diagnosis as he subsequently died from colon cancer. Assuming the latter case to be CD, the prevalence of CD in this cohort would be 1.3%. 5/7 patients with lymphocytic duodenosis (LD) had a cause for or association with LD: vitiligo, autoimmune hypothyroidism, aspirin use, proton pump inhibitor use, and Helicobacter pylori infection respectively. No attributable causes for LD were found in the remaining 2 patients. In group 2, the prevalence of CD was 19.5%. The sensitivity and NPV of Simtomax were 100%.

Gp1 Histology	153			
Normal (Marsh 0)	141 (92.2%)			
LD (Marsh 1)	7 (4.6%)			
VA (Marsh 3c)	2 (1.3%)			
Reactive changes, submucosal haemangioma, chronic duodenitis	1, 1, 1			
Gp2	Sensitivity, %	Specificity, %	PPV, %	NPV, %
Simtomax	100	82.2	57.8	100
TTG	96.2	91.5	73.5	99.0
EMA	84.6	99.1	95.7	96.4

Conclusion: Our duodenal histology review revealed no alternative causes for the IDA other than villous atrophy secondary to CD. Simtomax had 100% sensitivity and NPV for detecting CD in IDA. This suggests that performing a duodenal biopsy in patients with a negative Simtomax test is highly unlikely to yield a diagnosis for IDA, thus could be safely avoided if the sole purpose of the biopsy is to investigate IDA. Simtomax could provide significant cost savings by targeting patients with IDA who require a duodenal biopsy.

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