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BSG 2016 - Abstract Submission

Small bowel

BSG16-ABS-1460

DOES THE POINT OF CARE TEST, SIMTOMAX, DISTINGUISH BETWEEN COELIAC DISEASE AND NON-COELIAC GLUTEN SENSITIVITY?

M. S. Lau*¹, P. D. Mooney¹, W. L. White¹, M. Burden¹, S. H. Wong¹, M. Kurien¹, D. S. Sanders¹

¹Academic Department of Gastroenterology, Royal Hallamshire Hospital, Sheffield, United Kingdom

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Introduction: Non coeliac gluten sensitivity (NCGS) is an emerging clinical entity with a prevalence of 0.5-13%. It is characterised by gluten related symptoms with a negative coeliac serology and no villous atrophy (VA). It is currently a diagnosis based on exclusion of coeliac disease (CD). We aimed to assess the role of Simtomax, an IgA/G deamidated gliadin peptide (DGP) based point of care test (POCT), in differentiating between NCGS and CD.

Methods: Group 1: we compared the sensitivities of 3 POCTs: Simtomax, Biocard [IgA-tissue transglutaminase (TTG)] and Celiac Quick Test (IgA/G/M-TTG). We prospectively recruited 100 patients referred with a positive endomysial antibody (EMA) attending for a gastroscopy. All patients undertook the 3 POCTs, EMA, TTG, and all underwent a gastroscopy with 5 duodenal biopsies. Sensitivities were measured based on their histology.

Group 2: the sensitivity of Simtomax in the general population was evaluated by prospectively recruiting 667 patients with gastrointestinal symptoms or ataxia attending for a gastroscopy. To reduce positive ascertainment bias, we excluded patients referred with a positive EMA, previous VA, known CD, self-reported gluten sensitivity, and those on a gluten free diet. All patients undertook Simtomax, EMA, TTG and a gastroscopy with 5 duodenal biopsies. Sensitivities were measured based on their histology.

Group 3: we demonstrated the sensitivities of Simtomax in a gluten sensitive population. 35 patients with self-reported gluten sensitivity attending for a gastroscopy were prospectively recruited. All patients undertook Simtomax, EMA, TTG and a gastroscopy with 5 duodenal biopsies. Sensitivities were measured based on their histology.

Results: Group 1 showed that Simtomax was the best POCT in detecting CD. The CD prevalence was 85%. In group 2, the sensitivity and negative predictive value (NPV) of Simtomax were comparable to that of EMA and TTG. The prevalence of CD was 4.95%. In group 3, Simtomax had 100% sensitivity and NPV in differentiating between CD and NCGS. 4 patients (11.4%) were diagnosed with CD, 4 (11.4%) with potential CD (positive serology but no VA) and 27 (77.1%) with NCGS (negative serology and no VA).

Gp	Sensitivity, %	Specificity, %	PPV, %	NPV, %
Gp 1				
Simtomax	96.5	6.67	85.4	25
Biocard	71.8	53.3	89.7	25.0
Celiac Quick Test	67.1	33.3	85.1	15.2
Gp 2				
Simtomax	78.8	85.0	21.5	98.7
EMA	72.7	99.5	88.9	98.6
TTG	75.8	93.1	36.2	98.7
Gp 3				
Simtomax	100	80.6	40.0	100
EMA	75.0	96.8	75.0	96.8
TTG	75.0	87.1	42.9	96.4

Conclusion: Simtomax was the most accurate POCT for detecting CD. In a lower CD prevalence group 2 cohort, its sensitivity remained comparable to TTG and EMA. Simtomax had 100% sensitivity in detecting CD in patients with self-reported gluten sensitivity, and 100% NPV in identifying patients with NCGS.

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