

and February 2013. Patients treated with the low FODMAP diet were identified using dietetic records and correspondence. Of the whole study population ($n = 80$), 27 did not attend a follow up appointment and 7 were waiting for follow up at the time of the study. This left 46 patients with follow up appointment data. Their records were analysed and symptom data recorded. A comparison between before and after the diet was then made for symptom changes.

Results Following treatment with the low FODMAP diet patients reported a lower incidence of each IBS symptom. When the group was assessed for improvement, the results showed that for each symptom, at least 70% of patients improved. The biggest improvements were for bloating (93% improved) and flatulence (92% improved). Average stool consistency reduced from 5.21 to 4.16 on the Bristol Stool Chart. Average stool frequency per day reduced from 3.87 to 1.56. The diet has been used increasingly each year since 2009.

Conclusion The majority of patients treated with the low FODMAP diet at St Marys Hospital had symptomatic improvements. In this population it has been effective in treating symptoms that are difficult to treat medically such as; bloating, abdominal pain and flatulence.

REFERENCES

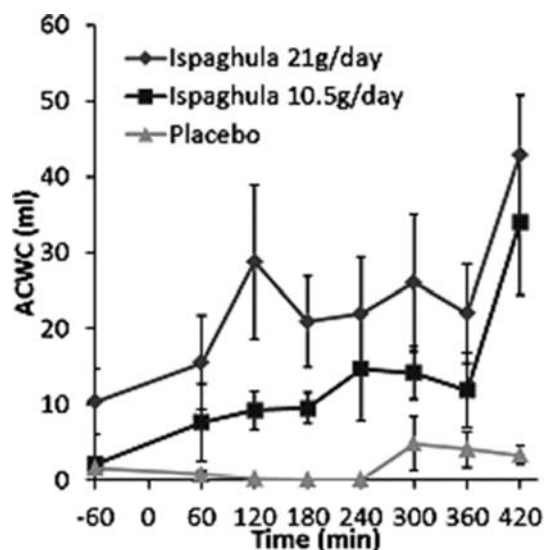
- Gibson PR, et al, Food choice as a key management strategy for functional gastrointestinal symptoms. *Am J Gastroenterol* 2012 May;107(5):657–66
- Barrett JS, et al, Dietary poorly absorbed, short-chain carbohydrates increase delivery of water and fermentable substrates to the proximal colon, *Aliment Pharmacol Ther* 2010 Apr;31(8):874–882

Disclosure of Interest None Declared.

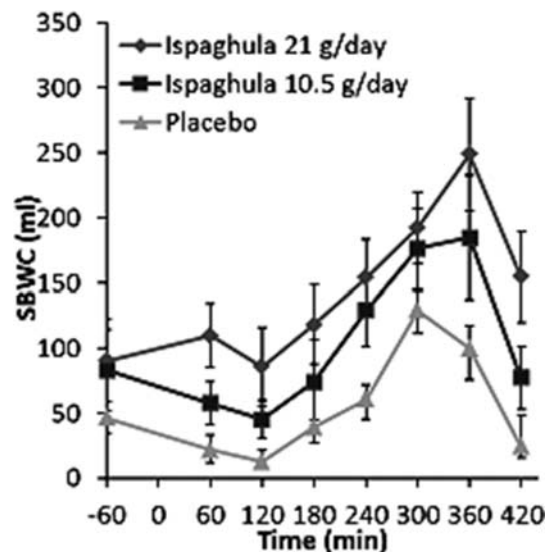
PWE-171 ASSESSING THE UTILITY OF KEY MRI PARAMETERS IN CHARACTERISING THE MODE OF ACTION OF A PROVEN EFFECTIVE LAXATIVE, ISPAGHULA

¹K Murray*, ²L Marciani, ²G Major, ¹C Hoad, ¹E Cox, ³A Silos-Santiago, ³C Kurtz, ¹M Kaviani, ¹JA Paul, ¹P Gowland, ³J Johnston, ²R Spiller. ¹Sir Peter Mansfield Magnetic Resonance Centre, Nottingham, UK; ²NIHR Nottingham Digestive Diseases Biomedical Research Unit, University of Nottingham, Nottingham, UK; ³Ironwood Pharmaceuticals Inc., Cambridge MA, USA

10.1136/gutjnl-2014-307263.431



Abstract PWE-171 Figure 1 Time course of freely mobile water in the ascending colon (ACWC) throughout the MRI study day



Abstract PWE-171 Figure 2 Time course of the freely mobile water in the small bowel (SBWC) throughout the MRI study day

Introduction Half of the patients who suffer from chronic constipation are dissatisfied with their treatments, which has initiated a recent surge in novel treatments. Assessing the efficacy of these treatments requires techniques that are patient acceptable and non-invasive and allow characterisation of the underlying mode of action. This study assessed the utility of key parameters likely to give insight into laxatives' mode of action including: colonic volumes, transit, ascending colon water content (ACWC) and small bowel water content (SBWC) by means of a randomised double-blind, placebo-controlled, crossover study (RCT) of a known effective laxative, ispaghula.

Methods 16 healthy volunteers (24 ± 4 years old, BMI 23 ± 4 kg m⁻²) participated in this three-way RCT. They took either 21 g/day of ispaghula, 10.5 g/day of ispaghula or a placebo daily on days 1–6. On day 5 they swallowed 5 transit marker pills (TMP) filled with a dilute MR contrast agent and on day 6 were scanned serially for 7 h. The TMPs were assigned a weighted average position score (WAPS) based on their location in the bowel. Protocol compliance was assessed and 9 subjects were included in the per protocol analysis.

Results (mean AUC \pm SEM, $n = 9$) Relative to the placebo, 21 g/day but not 10.5 g/day of ispaghula increased the ACWC (Figure 1) significantly (11 ± 4 L.min vs. 1.0 ± 0.5 L.min, $p < 0.001$), while SBWC (Figure 2) was increased significantly by both doses (68 ± 15 L.min vs placebo 25 ± 6 L.min, $p < 0.01$), and (49 ± 11 L.min, $p < 0.05$) respectively. Both doses significantly increased the total colon volume, and there was a significant increase in colon volume at fasted baseline measurement. Ascending colon T1 was also increased by the 21 g/day dose ($p < 0.01$), but 24 h WAPS for transit were not significantly changed by treatment.

Conclusion The volume of water in both the ascending colon and the small bowel are significantly increased by ispaghula and could be useful biomarkers of a laxative effect. Ispaghula also increased colonic volumes and ascending colon T1 without altering transit times, suggesting it or its metabolites does not stimulate motility. These MRI methods could be readily used in assessing the mode of action of a range of novel agents in constipated patients will provide unique information on the mechanisms of action.

Disclosure of Interest None Declared.