

with hypersensitive oesophagus (31%) was almost twice as high as in healthy controls, whereas, the prevalence in other subgroups (GERD, NERD) is similar to that of controls. This suggests that the link between HM and gastro-oesophageal reflux disease is related to visceral hypersensitivity, rather than to increased reflux. HM appears to be a risk factor for oesophageal hypersensitivity, and may contribute to the pathogenesis of this reflux entity.

Disclosure of Interest None Declared

REFERENCE

1. Castori, M., *et al.*, *Natural history and manifestations of the hypermobility type Ehlers-Danlos syndrome: a pilot study on 21 patients*. *Am J Med Genet A*. **152A**(3): p. 556–64.

PTU-126 JOINT HYPERMOBILITY SYNDROME, RECTAL HYPOSENSITIVITY AND SEVERE CONSTIPATION IN YOUNG NULLIPAROUS FEMALES

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Introduction The joint hypermobility syndrome (JHS) is a common non-inflammatory connective tissue disorder characterised by joint hyperflexibility and skin hyperelasticity. A validated 5 point hypermobility questionnaire screens for the presence or absence of JHS; formal diagnosis requires fulfilment of the Brighton criteria. Previous small cohorts demonstrate an association between the JHS and lower gastrointestinal symptoms (1), particularly alternating bowel habit with predominant constipation. The underlying mechanism for these symptoms is unknown.

Methods Retrospective observational study of patients attending a specialist colorectal physiology unit for investigation of chronic constipation. Patients completed validated lower GI symptom and 5 point hypermobility questionnaires, then underwent lower GI physiology testing. 43 patients with an established rheumatological diagnosis of JHS were compared to 146 consecutive patients who screened negative (score = 0) for JHS (Non-JHS). Demographic features, prevalence of presenting symptoms, and physiological abnormalities were compared in JHS and Non-JHS. In view of the multiple comparisons, the significance level was set at $p < 0.01$.

Results In patients with constipation, those with JHS were younger, and females were more likely to be nulliparous. JHS patients had significantly more alternating bowel habit, infrequent bowel motions, abdominal pain, and childhood bowel problems. They were significantly more likely to require manual manoeuvres to help with rectal evacuation, but did not have an increased prevalence of other evacuatory symptoms. On physiology testing JHS patients had more rectal hyposensitivity, but were less likely to have internal (IAS) and external anal sphincter (EAS) abnormalities on ultrasound (see Table 1). There was no difference in the prevalence of pelvic dys-synergia, slow colonic transit or rectal morphological abnormalities.

Abstract PTU-126 Table 1 Characteristics in constipated patients with and without JHS

	No JHS (n = 146)	JHS (n = 43)	p
Age	47.4 ± 15.3	31.7 ± 11.2	0.0000
Nulliparity	23%	69%	0.0000
Alternating bowel habit	3%	19%	0.0002
Bowels opening < once/week	24%	53%	0.0005
Manual manoeuvres	79%	100%	0.002
Childhood bowel problems	38%	62%	0.007
Rectal hyposensitivity	13%	35%	0.001
IAS abnormalities	39%	15%	0.003
EAS abnormalities	32%	5%	0.0006

Conclusion JHS patients have more severe constipation which is likely to date back to childhood, and which requires digitation. These patients are more likely to have rectal hyposensitivity but less likely to have structural or transit abnormalities to account for their symptoms. The diagnosis of JHS should be considered in young nulliparous females with a longstanding history of very infrequent bowel motions.

Disclosure of Interest None Declared

REFERENCE

1. Castori, M., *et al.*, *Am J Med Genet A*, 2010. **152A**(3): p. 556–64.

PTU-127 THE MACROGOL MRI CHALLENGE TEST: A NOVEL NON INVASIVE COLONIC FUNCTION TEST

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Introduction Managing resistant constipation commonly involves multiple often unpleasant invasive tests. Our aim was to develop a more acceptable non-invasive colonic function test.

Methods 13 patients (ages 21–60, female: male = 12:1) with chronic constipation (CC) unresponsive to simple laxatives; 9 with slow transit constipation, 2 obstructive defecation and 2 IBS with constipation. Whole gut transit (WGT) was assessed by ingesting 5 pills filled with Gadolinium-DOTA solution, 24 hours before study day when a fasting MRI scan of the abdomen was performed. Transit of the pills was assessed from an average weighted Transit Score (TS) previously shown to correlate well with the standard radio-opaque marker method (1). This enabled TS to be converted to WGT time in hours. Patients then ingested 1 litre of macrogol (MCG), followed by hourly MRI scans for 4 hours while they scored bowel symptoms from 0–10 (none – severe). Colonic movements were assessed using a motility index (integral of the duration of contraction in secs/2 minute X multiplied by the number of sections of the ascending colon showing contraction). Results were compared with values from 11 healthy volunteers (HV) previously reported (2).

Results (Mean±SEM) WGT time was calculated from the TS to be significantly greater for CC being 83 ± 12 hr vs. 30 ± 4 hr for HV ($p < 0.01$). The average fasting small bowel water content (SBWC) was increased for CC being 200 ± 18 compared to 51 ± 7ml in HV ($p < 0.01$). Fasting AC volumes were also greater in CC being 307 ± 26 compared to 205 ± 14ml in HV ($p < 0.01$). The average arrival time of MCG to the ascending colon (AC) was 74 ± 7 min in CC and 65 ± 5 in HV ($p = 0.39$). Motility index 2 hours after MCG ingestion was reduced in CC compared to HV being 14 ± 14 and 82 ± 14 ($p = 0.04$). Distension of the colon at 2 hours by MCG was greater for CC with AC volume of 615 ± 59 vs. 357 ± 46 ml in HV ($p < 0.01$). Time to first bowel movement after ingestion of MCG was delayed for CC compared to HV at 414 ± 144 and 117 ± 21 min ($p = 0.04$). Stool frequency for CC on the day of MCG ingestion were reduced compared to HV being 4.5 ± 1.4 versus 8.9 ± 1.2 ($p < 0.01$). Bloating score following ingestion of MCG was greater in CC being 2.3 ± 0.3 compared to HV 0.9 ± 0.3 ($p = 0.02$).

Conclusion CC patients have increased fasting SBWC and AC volumes compared to HV. When challenged with MCG, they showed greater distension and more discomfort with reduced motility and delayed bowel movement response. This MRI monitored MCG challenge test gives data on transit, sensory and motor function.

Disclosure of Interest None Declared

REFERENCES

1. Lam *et al.* BSG 2013 submission.
2. Garsed *et al.* *Gastroenterology* 2012; 142:S814S.