Conclusion Distinctive FI symptomatology and sensorimotor pathophysiology profiles has been identified in young and older adults. YA have higher prevalence of UFI symptoms owing to EAS dysfunction. MAA and OA showed higher prevalence in PFI symptoms through combination of diminished sensory of the rectal reservoir filling, reduced anal tone to prevent rectal outflow of faecal matter and blunted anal sensory making them susceptible to faecal seepage.

REFERENCE

1. Rogers J., et al. 1989. *Br. J. Surg.* **76**(6): p60–09
2. Farthing M. and Lennard-Jones J., 1978. *Gut.* **19**: p6–9
3. Roe A., 1986. *Br. J. Surg.* **73**(4.): p31–12
4. Jameson J., et al., 1994, *Br J Surg.* **81**(11):p1689–92.

PWE-085 THE CLINICAL VALUE OF PERFORMING COUGH ASSESSMENT IN PATIENTS WITH FAECAL INCONTINENCE DURING ANAL MANOMETRY

Ismail Miah. *Guy's and St Thomas' Nhs Trust, Greater London, UK*

10.1136/gutjnl-2019-BSGAbstracts.405

Introduction The external anal sphincter (EAS) involuntary contraction invoked by cough mechanism is usually abandoned during anal manometry studies because its clinical value remains unknown. In this study, we retrospectively review the EAS contractions invoked by cough in patients undergone biofeedback therapy (BFT) for faecal incontinence.

Method Patients were selected between October 2010 and October 2013. Each patient had:

Anal manometry test performed by an experienced gastrointestinal physiologist

Attended at least two biofeedback therapy (BFT) sessions

Patients with constipation symptoms leading to overflow incontinence, flatus/mucus incontinence without faeces or having a rectal prolapse protruding externally via anus on visual inspection were excluded.

Anal manometry was performed using 8-channel water-perfused radial catheter in accordance to [1]. Anal tone and EAS contractions (induced by voluntary manoeuvre and involuntary via cough mechanism) were performed twice at the high pressure zone of the anal canal and the highest contraction amplitude were recorded. These physiological parameters were benchmarked against normal range [2]. Statistical χ^2 , t-test, odd ratio (OR) and positive predictive value (PPV) were employed.

Results Patient gender female: male demography was 97:18 (aged between 2–0 years). None of the patients showed or experienced faecal incontinence episodes during the cough manoeuvre.

In this cohort of patients, 29.5% demonstrated normal voluntary EAS contraction and 68.7% demonstrated a normal EAS involuntary contraction ($p < 0.0001$). This suggests the two EAS function assessment are different and the voluntary EAS contraction did not represent the full potential of the EAS contraction.

Patients who responded to BFT showed significantly increased EAS involuntary contraction (77.4cmH₂O vs 43.7cmH₂O, $p < 0.00001$). Sensitivity to responding BFT when normal involuntary EAS contraction was observed is 72% and specificity to not responding to BFT when involuntary EAS contraction amplitude was hypotensive is 53.3% ($p = 0.0242$). When a normal EAS involuntary contraction is demonstrated

during manometry, the odds of patients responding to BFT nearly triples and good prediction to responding to BFT was observed (OR=2.96, PPV=91.1%).

Conclusion This study shows the clinical value of performing EAS involuntary contraction invoked by cough as a diagnostic parameter that differs from the voluntary EAS assessment. EAS involuntary invoked by cough may also be a clinical predictor for BFT outcome.

REFERENCE

1. Rogers J., et al. 1989. *Br. J. Surg.* **76**(6): p60–09
2. Jameson J., et al., 1994, *Br J Surg.* **81**(11):p1689–92.

PWE-086 SUBTYPES OF FAECAL INCONTINENCE

Ismail Miah*. *Guy's and St Thomas' Nhs Trust, Greater London, UK*

10.1136/gutjnl-2019-BSGAbstracts.406

Introduction Urge faecal incontinence (UFI) and passive faecal incontinence (PFI) are forms of anal incontinences described by patients that are not treated differently nor received subtype classification for treatment. This study addresses the pathophysiology of faecal incontinence subtypes.

Method Patients were selected based on UFI and PFI symptoms who also underwent various anorectal physiology studies according to protocols [1]. They were performed by an experienced clinical gastrointestinal physiologist.

All patients had normal endo-anal ultrasound screening and the rectum criteria includes patients with incontinences of mixed subtypes, mucus and flatus incontinence without stools, constipation with overflow incontinence and rectal prolapse detected protruding externally from the anus on visual inspection.

Appropriate χ^2 and t-test were employed to assess the patient demography and anorectal physiology profiles.

Results Total number of patients selected is 304: UFI group (F:M=181:35, aged 2–6years) and PFI group (F:M=66:22, aged 2–1 years).

Patients with PFI are generally older ($p < 0.00001$) and men are more likely to complain of PFI than UFI (25% vs 16.2%, $p = 0.0374$).

Patients with UFI symptoms tend to open their bowels more frequently compared to patients with PFI symptoms (4.0 vs 2.8, $p = 0.0005$). Their stool consistency to bowel opening (including UFI episodes) are generally formed (Bristol Stool Chart [BSC] types –) and patients with PFI generally pass stools (including incontinent) that are loose/liquid motion (BSC types –) ($p < 0.00001$).

There was no statistical difference in the functional anal length calculated from the manometric pull through ($p = 0.2610$).

In patients with PFI symptoms, significantly reduced anal resting pressure was observed ($p = 0.0001$) and higher incidence of hypotensive anal tone was observed (65% vs 42%, $p = 0.0002$).

Patients with UFI symptoms, demonstrated significantly lower voluntary peak pressure ($p = 0.002$), involuntary cough contraction ($p = 0.011$) and endurance squeeze pressures ($p = 0.015$). Respectively, their hypotensive prevalence were significantly higher: 43.1% vs 30% ($p = 0.0196$), 43% vs 31% ($p = 0.0383$) and 83.4% vs 71% ($p = 0.0088$).

The rectal sensory function to distension were generally normal in both subtypes of FI and there was no statistical

difference in patients' sensory to rectal distension ($p=0.4527$), perception urge volume to defecate ($p=0.1499$) and the maximum rectal capacity ($p=0.2332$).

The anorectal electro-sensory were generally normal in both subtypes of FI and there was no statistical difference in the anal mucosal sensory ($p=0.088$) or rectal mucosal sensory ($p=0.4450$).

Conclusion This study showed that FI can be subtyped into I and II based on the distinctive pathophysiology findings. The subtyping of FI are likely to link the options for clinical management.

REFERENCE

1. Jameson J., et al., 1994, *Br J Surg.* **81**(11):p1689–92.

PWE-087 OESOPHAGEAL BODY MOTILITY AND REFLUX PROFILES IN PATIENTS WITH OESOPHAGOGASTRIC JUNCTION OUTFLOW OBSTRUCTION

Ismail Miah*, Terry Wong, Jafar Jafari. *Guy's and St Thomas' NHS Trust, Greater London, UK*

10.1136/gutjnl-2019-BSGAbstracts.407

Introduction Oesophagogastric junction outflow obstruction (OGJOO) has multifactorial aetiology that is closely ranking to achalasia in the Chicago classification [1] algorithm which take precedence to oesophageal body motility disorders. As a result, any coexisting oesophageal motility disorders is neglected.

In this study we assess the prevalence of the oesophageal body dysmotility and reflux disease in patients with OGJOO.

Method Patients were selected between November 2014 and December 2018 with OGJOO. The diagnosis was based on the high-resolution manometry testing (Sierra Scientific Instruments HRM system) and the Chicago Classification criteria [1].

The reflux monitoring was performed using Sandhill Scientific multichannel impedance-pH catheters (ZAN-BG-44). True reflux was accepted when retrograde impedance flow with concurrent oesophageal pH sensor detecting <4 . Assessment of reflux was made for oesophageal hypersensitivity, daytime & night time pathological reflux exposure and gastroesophageal reflux disease (GORD) (total exposure $>4.3\%$ & DeMeester score >14.72).

Appropriate Fisher exact test and t-test were performed.

Results Total patients selected is 202 (F:M=144:58, aged 1–9 years).

85/202 patients (42.1%) showed oesophageal body dysmotility disorders co-existing with OGJOO diagnosis. Of which, 70/85 patients had minor motility disorders (ineffective oesophageal motility 77.5%, fragmented peristalsis 22.5%) and 15/85 had major motility disorders (Jackhammer oesophagus 100%, distal oesophageal spasm 0%) ($p<0.0001$).

Reflux monitoring was performed on 145 patients with OGJOO. In 14/15 of the OGJOO patients asymptomatic to reflux symptoms did not have reflux disease whereas 45/130 of OGJOO reporting typical reflux symptoms (heartburn, chest pain & regurgitation) had reflux disease ($p=0.0206$). The odds OGJOO patients not having reflux disease when

asymptomatic is 7.41. In the 45 patients with pathological acid reflux exposure, 64.4% had daytime reflux disease, 22.2% nocturnal reflux disease and 13.3% of patients revealed oesophageal hypersensitivity. Moreover, 28/45 of these patients showed diagnostic compatibility with GORD. In 14/28 patients with OGJOO concurrent with GORD had abnormal motility whereas 68/82 OGJOO patients (without GORD) had normal oesophageal motility ($p=0.1258$). There also no statistical difference in the integrated relaxation pressure of the lower oesophageal sphincter in the OGJOO patients with and without GORD (19.0mmHg vs 20.4 mmHg, $p=0.1002$).

Conclusion The findings of this study revealed OGJOO disorder can co-exist with minor and major oesophageal body motility disorders in 42% of the cases and 30% of cases have reflux disease. These findings may impact on the options for managing the OGJOO.

REFERENCE

- 1.. Kahrilas PJ, et al. The Chicago Classification of Esophageal Motility Disorders, v3.0 *Neurogastroenterol Motil* 2015;27(2):160–174.Rami bread swallows

PWE-088 GORD MANAGEMENT – OESOPHAGOGASTRIC JUNCTION DILATATION?

Ismail Miah*, Terry Wong, Jafar Jafari. *Guy's and St Thomas' NHS Trust, Greater London, UK*

10.1136/gutjnl-2019-BSGAbstracts.408

Introduction A group of patients with gastro-oesophageal reflux disease (GORD) also have oesophagogastric outflow obstruction (OGJOO) condition. Given the nature of the motility disorder, treatment of GORD in these patients would differ from GORD being caused by an incompetent GOJ. In this study we assess the GORD mechanism in patients with OGJOO.

Method Patients were screened between 2015 to 2018 with 24hr impedance-pH monitoring and high-resolution manometry (HRM) testing. Two groups of GORD patients were selected: patients also having OGJOO (group 1) and patients having normal oesophageal motility (group 2). The manometry assessment for OGJOO and normal motility was based on Chicago classification [1].

Results Total number of patients selected was 66: group 1 (F:M=21:7; age 4–0 years) and group 2 (F:M=27:11; 2–8 years).

Group 2 showed significantly higher acid reflux count (47.2 vs 32.1, $p=0.0036$) and a ratio of acid exposure time per acid reflux episode which significantly higher in group 1 (8.0 mins/episode vs 3.1 mins/episode, $p=0.0215$).

The total acid exposure between group 1 and group 2 was not significantly different (percent clearance time on pH was 10.2% vs 9.3% [$p=0.2372$] and acid exposure time was 139.24mins vs 121.10mins [$p=0.1536$]).

Conclusion There is indication that mechanism of GORD in OGJOO is mainly due to poor clearance of acid. Therefore, patients with GORD concurrent with OGJOO condition may benefit from improved oesophageal clearance, such as with OGJ dilatation opposed to antireflux surgery.

This study was limited by the sample size.