

control group and also compared with the OTT findings for OGJ obstruction (>1.64 mins) which were previously published.<sup>2</sup>

All patient selected in this study had essentially normal endoscopy and radiology that could not explain patients' dysphagia.

**Results** Total of 76 patients were selected (F:M=49:27, aged 20–77 years old) and 51.3% (39/76) were complaining of dysphagia.

The 5%-95% confidence interval of OTT was significantly higher in the patient group compared to the control group (1.89 – 3.91 mins vs 0.32 – 0.41 mins,  $p < 0.0001$ ). The OTT in all 39/39 dysphagia patients exceeded the 95% of normal range (0.41 mins) and 59% (23/39) of dysphagia patients had OTT exceeding 1.64 mins which is comparable to the diagnosis of OGJ obstruction.<sup>2</sup>

**Conclusion** This study demonstrated MIIT testing to be a valuable complementary tool to assess patients' OTT and was able to explain patients' dysphagia. Majority of the dysphagia patients demonstrated OTT compatible to that of OGJ obstruction diagnosis.

## REFERENCES

1. Kahrilas P, et al. *Neurogastroenterol Motil* 2015;27(2):160–174
2. Miah I, et al. *BMJ Gut* 2019;68:A214.

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### MULTICHANNEL INTRALUMINAL IMPEDANCE TRANSIT IN PATIENTS WITH OBSTRUCTIVE DISORDERS

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10.1136/gutjnl-2020-bsgcampus.410

**Introduction** We previously showed multichannel intraluminal impedance transit (MIIT) can be performed during a 24-hour pH-impedance monitoring to assess the oesophageal transit.<sup>1</sup> The oesophageal transit in patients' was not always assessed during the patient's fasting period to determine critical cutoff thresholds between normal and poor oesophageal transit. The current investigates the topic question.

**Method** Patients were selected between January 2018 and December 2019 who underwent two investigations in their fasting period:

- i. High-resolution manometry (HRM) with Chicago Classification diagnosis.<sup>1</sup>
- ii. MIIT assessment with 200 ml of saline<sup>2</sup>

Based on [1], patients with normal HRM without dysphagia were grouped into control and dysphagia patients grouped into OGJ outflow obstruction (OGJOO) and achalasia.

Receiver operating curve (ROC) was plot to ascertain critical oesophageal transit time thresholds in normal motility and in patients with OGJOO and achalasia. The likelihood ratio (LR) for critical thresholds was computed and *t*-test & Fisher exact tests were employed appropriately to assess for statistical significance.

**Results** Total number of 117 patients were selected (F:M=74:43, age 18–84 years old). There was statistical significant differences in the oesophageal transit time between the control group compared with the OGJOO group ( $p < 0.0001$ ) and when compared with the achalasia group ( $p < 0.0001$ ).

**Abstract P336 Table 1** oesophageal transit time (minutes) in control and patients groups

Group	N	Mean [median]	Standard deviation	5%-95%CI	Range
Control	38	0.37 [0.32]	0.14	0.32 – 0.41	0.15–0.78
OGJOO	40	2.53 [2.6]	0.88	2.26 – 2.81	0.73–3.90
Achalasia	42	37.7 [36]	21.12	34.4 – 47.3	5.6–84

Statistical differences were also found OGJOO and achalasia patient groups ( $p < 0.0001$ ). The descriptive statistical data can be found in table 1.

According to the ROC analysis, oesophageal transit time >0.76 mins will differentiate from normal to OGJOO disorder (sensitivity=91.2%-100%, specificity=86.2%-99.9%) (LR=38) ( $p < 0.0001$ ). Oesophageal transit time of >3.9 mins will differentiate from OGJOO to achalasia (sensitivity=91.6%-100%, specificity=86.8%-99.95%) ( $p < 0.0001$ ) (LR=40).

**Conclusion** MIIT can differentiate between normal oesophageal motility and patients with obstructive disorders. Therefore, there is a provision for using this method which is readily available during reflux monitoring.

## REFERENCES

1. Kahrilas P, et al. *Neurogastroenterol Motil* 2015;27(2):160–174.
2. Miah I, et al. *Gut BMJ* 2019;68:pA214.

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### EVALUATING MODERN REFLUX MONITORING METHODS WITH RESPECT TO MEDICAL THERAPY

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10.1136/gutjnl-2020-bsgcampus.411

**Introduction** Multichannel impedance-pH monitoring (ZPM) and Bravo pH monitoring (BPM) are currently the gold-standard methods to objectively diagnose gastro-oesophageal reflux disease (GORD). BPM has shown to increase the diagnostic yield of GORD in patients with oesophageal hypersensitivity on ZPM<sup>1</sup> and in negative ZPM.<sup>2</sup>

This paper addresses the treatment response of GORD when diagnosed by ZPM and BPM methods.

**Method** This is a cross-sectional parallel study between August 2019 and September 2019 of a patient cohort who underwent ZPM or BPM methods (according to protocols<sup>3</sup>) and were treated with standard proton pump inhibitor (PPI) therapy for GORD diagnosis.<sup>4 5</sup>

Patients scored the severity of their typical reflux symptoms (heartburn [HB], regurgitation [RG] & non-cardiac chest pain [NCCP]) on a visual analogue scale whilst off PPI therapy during the reflux monitoring and again on PPI therapy 4–5 weeks later. This was used to assess for positive treatment response (when symptom severity reduced by  $\geq 50\%$ ), symptom eradication and no symptomatic changes. Appropriate  $\chi^2$  testing was employed to compare treatment response between reflux methods.

**Results** Total of 112 patients were selected based on ZPM-GORD diagnosis (F:M=40:29, age=24–79 years) and BPM-GORD diagnosis (F:M=32:11, age=23–76 years).