PWE-092 INTERNAL CONSISTENCIES OF MODERN REFLUX MONITORING METHODS: PH-IMPEDANCE MONITORING VS BRAVO PH MONITORING

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Introduction There are no established guidelines for the choice of reflux monitoring equipment. Neither are we any wiser of the accuracy and consistency of the reflux monitoring techniques. This study addresses the recording consistencies of the multi-channel pH-impedance (MII-pH) technique and the wireless Bravo pH (WB-pH) method.

Method Patients who had 2 days of reflux monitoring using either MII-pH or WB-pH procedures in the year 2018 were selected. The consistency of normal and pathological reflux were compared between both days. The normal range considered for MII-pH was considered when total exposure was <4.3% and DeMeester <14.72. WB-pH monitoring was based on the following recording for day 1 and day 2 [1].

Inter-rater reliability (IRR) was employed to assess the correlation for days 1 and 2 for each method and fisher exact test was used to assess for statistical significance in consistencies between methods. Statistical significance using fisher exact was also employed to assess diagnostic yield by extending the MII-pH to day 2 and the necessity to have extended WB-pH monitoring. We also compared the technical failure of capturing data in each method.

Results Total number of patients selected for this study was 459: MII-pH recording (F:M=58:33, aged 2–8 years) WB-pH recording (F:M=223:145, aged 2–0 years).

All patients who undergone the MII-pH method successfully completed the 48-hours recording, whereas, 24/368 (6.52%) of patients undertaking the WB-pH study encountered technical faults (capsule detachment sooner or significant artefacts captured) thus requiring to repeat the WB-pH study ($p=0.0040$).

IRR of the 2 days of reflux monitoring was significantly higher in patients who underwent MII-pH (89.0% vs 69.8%, $p=0.0018$). The diagnostic yield of GORD by extending MII-pH by the second 24-hr study increased by 5.5% whereas 45.6% of the patients who underwent WB-pH monitoring showed GORD on day 1 thus not requiring the extended reflux monitoring ($p<0.0001$). Only 9.0% of patients who undertook WB-pH demonstrated pathological reflux on day 2 when normal recording was observed on day 1.

Conclusion MII-pH monitoring technique seems to offer stronger reliability of diagnosis between 2 consecutive days of recording and seems to be less prone to technical difficulties

REFERENCE

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PWE-093 INTER-RATER CORRELATION OF OESOPHAGEAL MOTILITY DURING LIQUID SWALLOW AND SOLID SWALLOW IN PATIENTS WITH ACHALASIA

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Introduction Patients attending the oesophageal laboratory mainly complaining of dysphagia are generally to solid food. However current motility assessment to diagnose achalasia and the subtype are based on water swallows [1]. In this study, we investigate the correlation between liquid swallow and solid swallow in patients with achalasia.

Method Patients were selected based Chicago Classification (version 3)[1] between January and December of 2018. High-resolution manometry was performed using the Sierra Scientific Instruments with 36-channel solid-state catheter and Manoscan 3.0.1 was used to capture the recording. Solid bolus swallows were performed using bread with butter sandwich meal and motility assessment (including distal contractile integral values) was based on [2].

Inter-rater reliability (IRR) was calculated between liquid swallow and solid swallow in the achalasia subtypes. Fisher exact was employed to find investigate statistical differences in the IRR between achalasia subtypes during liquid swallow and solid swallow.

Results Patients selected (F:M=45:43, aged =1–7 years) were of subtype 1, 2, and 3 respectively of 39.8%, 60.2% and 0% based on water swallows.

The total number of patients performing liquid and solid bolus swallows in achalasia subtypes 1 and 2 were 29 and 38.

The inter-rater agreement between liquid swallow and solid swallow in achalasia subtypes 1 and 2 were 37.9% and 86.8% ($p<0.0001$).

Conclusion Achalasia type 2 shows strong agreement between liquid bolus swallow and solid bolus swallow.

Majority of type 1 achalasia on solid swallows were not consistent with the primary diagnosis made by liquid swallow.

REFERENCE

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PWE-094 ACHALASIA SUBTYPE CLASSIFICATION BASED ON LIQUID SWALLOW AND SOLID SWALLOW

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Introduction The oesophageal body motility in achalasia defines the subtype of the disease. However, it is unknown how the oesophageal body motility changes when challenged with solid swallows as our clinical practice focuses on water swallows. The aim of this study addresses the topic in question.

Method Patients were selected based on Chicago Classification (CC) (version 3)[1] between January to December 2018. High-resolution manometry was performed using the Sierra Scientific Instruments with 36-channel solid-state catheter and Manoscan 3.0.1 was used to capture the recording. Solid bolus swallows were performed using bread with butter sandwich meal and motility assessment (including distal contractile integral [DCI] values) was based on [2]. Fisher exact test was employed to assess for any statistical difference where appropriate.