the PCR process. Once appropriate reagents had been added the PCR tube the constituents were entered into a Roche thermo-cycler 480 to undergo DNA replication. The amplified samples were then seeded at 5µl into a 1.6% agarose gel to undergo electrophoresis.

The trialled samples were refined to a total of 24 that proceeded to be inputted into the University of Liverpool CGR for sequencing. Generated data was analysed using MicrobiomeAnalyst. The data set was refined using a prevalence of 10% and variance filters employing inter-quartile ranges to remove fungal organisms with very low prevalence and reduce the number of sequencing errors. Data was then normalised using total sum scaling.

Results Comparison of the mycobiome of individuals with PD relative to healthy controls have presented an altered fungal composition of the gastro-intestinal tract. 8 OTU-level and 3 order-level specific fungal species have been identified to be differentially abundant by varying statistical tests (figure 1, depicts the relative species abundance change of fungal organisms between PD VS healthy controls)

Conclusion Overall this study provides evidence of alteration to the mycobiome of patients afflicted with PD relative to that of healthy controls. It reinforces data previously presented by the hibernating spore hypothesis on how a fungal organism may be involved in PD pathogenesis, and now paves the way for future studies examining specific fungal species and their possible pathological interaction with both the gastrointestinal system and the CNS.

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P330 ABDOMINAL PAIN IN STUDENTS OF THE MEDICAL UNIVERSITY: RELATIONSHIP WITH NUTRITIONAL HABITS

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Introduction Abdominal pain is one of the symptoms of functional gastrointestinal disorders, which are widespread among young people. Purpose to study the prevalence of the abdominal pain syndrome in association with nutritional habits among students of the medical university.

Methods a survey of 3634 students of the medical university, aged from 17 to 34 years (average age 23.34 ± 6.48 years), was conducted. Among the respondents, there were 709 (19.51%) male and 2925 (80.49%) female individuals. All subjects anonymously completed questionnaires (GSRS, WHO CINDI program questionnaire). Statistical analysis was carried out in the Statistica Stat Soft.

Results the presence of abdominal pain syndrome was detected in 2300 (63.29%) of respondents. 459 (19.96%) of the respondents answered positively to the question: 'Did you feel pain or discomfort in the upper part of the abdomen or in the stomach area last week?'. 714 (31.04%) of the respondents answered positively to the question: 'Did you feel hunger pains last week? (This is a feeling of emptiness in the stomach due to the need to have a snack between meals)'. 1127 (49.0%) of respondents felt both symptoms. Persons with abdominal pain showed significantly more complaints about the presence of other gastrointestinal syndromes such as dyspeptic (U = 643595.0, p <0.000), reflux syndrome (U = 920284.0, p <0.000) and constipation (U = 1129323, 0, p <0,000). When choosing food products, people with abdominal pain are guided by the possibilities of the family budget (U = 1454402.5, p = 0.000). They are less interested in quality (U = 1503088.5, p = 0.000) and the usefulness of food products (U = 1503619, 0, p = 0,000), compared to individuals without abdominal pain. Respondents with abdominal pain had the following habits: an increased consumption of coffee and tea (U = 1544300.5, p = 0.0048 and U = 1538526.0, p = 0.0027, respectively), low consumption of vegetables and fruits (U = 1323404.0, p = 0.000 and U = 1479562.0, p = 0.000, respectively), the habit of oversalting the cooked foods (2I = 18.85, p <0.001), various taste preferences for flour-based products (2I = 13.47, p <0.001), for fatty products (2I = 6.92, p <0.001), for spicy products (2I = 7.76, p <0.001), for salty products (2I = 41.09, p <0.001), for sweet products (2I = 25.35, p <0.001). The frequency of meals did not affect the presence of abdominal pain (U = 1588756.5, p = 0.2845). However, people with abdominal pain significantly more often reported on a time limit for eating (2I = 11.93, p <0.001), frequent overeating (2I = 57.77, p <0.001) and irregular meals (2I = 57.77, p <0.001).

P331 POTENTIAL PERILS OF INEFFECTIVE OESOPHAGEAL MOTILITY IN IDIOPATHIC PULMONARY FIBROSIS (IPF)

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Introduction IPF is a chronic, irreversible, and progressive lung disease, with survival from diagnosis of only 2–5 years. It is characterised by excessive extracellular matrix deposition and remodelling within lung tissue, initiated by repetitive alveolar epithelial cell injury. One trigger of injury is believed to be micro-aspiration of gastroesophageal reflux. However, there is limited or no data on objective measures of reflux, and how it relates to oesophageal motility, lung mechanics and pulmonary function. This study used high resolution impedance manometry, 24 hr pH-impedance and pulmonary function testing to address these questions.

Methods A prospective cohort study of 32 patients with IPF (aged 53–75 yr; 25 male) assessed between Dec. 2018 and Dec. 2019 at Mayo Clinic, USA and Leeds Teaching Hospital Trust.

Results Twenty (63%) patients exhibited dysmotility (Chicago Classification v3.0 (CC)); 14(70%) hypo-contractility (eg ineffective oesophageal motility, fragmented peristalsis, occurring in ≥50% swallows, and absent contractility) and 6(30%) oesophagogastric junction outflow obstruction (EGJOO). Abnormal reflux bolus exposure time was identified in 9(28%) patients, in whom 5/9, and one patient with normal reflux, had an abnormal number of events reaching the proximal oesophagus. 30%(13–48%) (median(IQR)) of all events reached the proximal oesophagus. 4/14 patients with hypo-contractility, 5/12 with normal motility and 0/6 with EGJOO (CC) exhibited

abnormal reflux. Interestingly, 4 patients with normal motility (CC) did have ineffective swallows (<40% swallows), and the removal of these patients, resulted in the redefined cohort having no abnormal proximal reflux. Across all patients reflux bolus exposure time correlated with gastroesophageal pressure gradient (GEPG) (r=0.479;p=0.009), which became stronger when only patients with normal motility were examined (CC: r=0.664;p=0.018; redefined: r=0.881;p=0.004). There was no association in hypo-contractility, likely due to the presence of ineffective motility, which correlated with reflux bolus exposure time (r=0.422;p=0.133). Patients with hypo-contractility had a lower Forced Vital Capacity percent predicted (49%(40–68)%) than patients with normal motility (67%(61–72)%;p=0.04).

Conclusions Ineffective oesophageal motility was associated with increased reflux exposure, with many events reaching the proximal oesophagus, irrespective of whether patients had hypo- or normal motility; likely driven in part by increased GEPG. Furthermore, such motility abnormalities appear to associate with pulmonary dysfunction.

P332 INTRA-SPHINCTERIC BOTULINUM TOXIN INJECTION IN THE MANAGEMENT OF FUNCTIONAL BILIARY PAIN: IS IT EFFECTIVE?

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Introduction The management of Type III sphincter of oddi dysfunction (SOD), or functional biliary pain syndrome, remains challenging. Evidence from the EPISOD study suggests that there is no role for biliary or pancreatic endoscopic sphincterotomy in treating functional biliary or pancreatic pain.[1]Intra-sphincteric ampullary botulinum toxin injection has been reported to be effective in managing pancreaticobiliary pain by a combination of its anti-spasmodic effect on the sphincter of oddi and its general anti-nociceptive properties. We have been using ampullary botulinum toxin injection in conjunction with neuromodulatory drug therapy in managing functional bilio-pancreatic pain and review our experience of this management strategy.

Methods A retrospective review of case notes over a 5-year period (2014–2019) was performed. The diagnosis of Type III SOD or functional biliary pain was made in post cholecystectomy patients following extensive laboratory, radiological and endoscopic investigations. Patients with typical pre-cholecystectomy pain, normal duct size and normal liver function tests were identified as Type III SOD or functional biliary pain, in line with the modified Milwaukee criteria. Intra-sphincteric botulinum toxin A injection was performed in a quadrantic fashion across the ampullary face. The efficacy of ampullary botulinum toxin injection on pain was recorded at post-procedure outpatient review using a nominal pain scale. Opioid analgesia and frequency of hospital admissions were noted, in addition to neuromodulatory medication initiated at the time of endoscopy or at subsequent outpatient review.

Results 119 patients (109 females, 10 males, mean age 45 (17–77) years)) with severe bilio-pancreatic pain underwent 411 intra-sphincteric botulinum toxin injection procedures (mean 2 (1–15) procedures). The median dose of botulinum toxin used was 200 (100–600) units. 43% and 55% of patients respectively were on regular or intermittent opioids for managing pain.

103 patients (87%) reported a significant improvement in pain with 77% of patients managing to discontinue opioids. 76% did not have any acute hospital admissions or emergency department attendances for pain management. 59% of the cohort were initiated on Amitriptyline (TCA), 18% onto Duloxetine (SNRI), 13% onto Pregabalin and 3% on mirtazapine (NaSSA) to treat their pain syndrome. Loss of response with the initial dose of botulinum toxin occurred in 56% of patients. Pain control was re-established in 80% of patients in this cohort following botulinum toxin injection at a higher dose to the previous o the previous effective dose. There were no procedural related complications.

Conclusions Intra-sphincteric botulinum toxin injection is an effective and useful management strategy in conjunction with neuromodulatory agents in functional biliary pain/Type III SOD.

P333 BASELINE MUCOSAL IMPEDANCE PREDICTING THE OUTCOME OF BRAVO PH STUDY

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Introduction We have previously shown wireless Bravo pH monitoring (WBM) to increase the diagnostic yield of GORD in patients with normal multichannel impedance-pH monitoring (ZPM).[1] The decision factor to further investigate these patients on WBM after normal ZPM is unknown. This study examines the baseline mucosal impedance (BMI) to predict the outcome of WBM.

Method This is a retrospective study of patients with normal ZPM study (off PPI therapy) who underwent WBM (off PPI therapy) between 2010 and 2019. ZPM was performed using Sandhill Scientific catheters (ZAI-BG-44) and distal BMI was measured up to 7 cm from the manometric gastro-oesophageal junction. The BMI recording period was between 1 am to 6 am when no activity was observed. WBM was performed for 2 days using Given Imaging Bravo capsule that was placed endoscopically 6 cm above the Z-line. The diagnosis for pathological reflux was based on combined 48 hours.[2]

Statistical *t*-test was used to compare BMI between normal and pathological states on WBM study. Receiver operating curve (ROC) was plot to assess for critical BMI threshold to predict pathological reflux on WBM. Fisher exact test along with odds ratio (OR) were calculated to assess the critical BMI threshold. Positive predictive value (PPV) for GORD and negative predictive value (NPV) for absence of GORD were also computed with respect to the BMI critical threshold.

Results Total number patients selected were 212 (F: M=150:62, aged 20–81 years old). The mean BMI recording period was 33 minutes (20–130 minutes).

BMI was significantly reduced in the pathological reflux group found on WBM (p<0.0001). The ROC revealed critical BMI threshold of 2135Ω (sensitivity=87.6%, specificity=82.1%, Youden's J index=0.700)(85% of the area covered below the curve) (see figure 1). On investigating the WBM with pathological outcomes when BMI ≤2100Ω produced an OR of 29.3 and a *p*-value <0.0001 was observed. The PPV for presence of GORD on WBM when BMI≤2100Ω is 75%