P349 ENHANCING HUMAN PHARYNGEAL CORTICAL EXCITABILITY WITH NOVEL NEUROSTIMULATION TECHNIQUES OF GAMMA TACS AND FULL-SPECTRUM TRNS

^{1,2}Mengqing Zhang, ¹Ivy Cheng, ¹Ayodele Sasegbon, ¹Shaheen Hamdy*. ¹Centre for Gastrointestinal Sciences, Division of Diabetes, Endocrinology and Gastroenterology, The University Of Manchester, Manchester, UK; ²Department of Rehabilitation Medicine, The Third Affiliated Hospital, Sun Yat-sen University, Guangzhou, China

10.1136/gutjnl-2020-bsgcampus.423

Background and Aim Transcranial alternating current stimulation (tACS) and transcranial random noise (tRNS) are two novel, non-invasive brain stimulation (NIBS) techniques that have been shown to have physiological and functional effects on brain excitability and motor behaviour. Nevertheless, little is known about its effects on swallowing system. The goal of the present study was to examine the effects of tACS and tRNS to determine the optimal stimulation parameters for modulating excitability of pharyngeal motor cortex, as a prelude to studying the therapeutic effects of tACS or tRNS in patients with neurological dysphagia.

Material and Methods 10Hz (alpha) tACS, 20Hz (beta) tACS, 70Hz (gamma) tACS, and full-spectrum tRNS were randomized and applied over pharyngeal motor cortices at 1.5 mA current intensity for 10 minutes in 15 healthy participants (6 males, age range 18–50 years, mean ($\pm$ SEM) 24 ± 8 years). Sham stimulation served as control condition. Pharyngeal and thenar (hand) motor evoked potentials (PMEPs & TMEPs) were assessed before and up to 2 hours after stimulation by single pulse transcranial magnetic stimulation (TMS). Averaged MEP amplitudes and latencies changes were analysed using ANOVA. Sensory side effects of the intervention were recorded by a standard questionnaire.

Results All participants completed the study with no moderate or severe adverse events reported although phosphenes were reported by all subjects at 10Hz and 20Hz tACS. One way repeated measures ANOVA across all active interventions demonstrated a significant MEP interaction both in the stimulated pharyngeal hemisphere ($F(4,56) = 1.731, p = 0.038$) and ipsilateral thenar ($F(4,56) = 1.506, p = 0.048$) (figures 1). Compared to sham, subsequent *post-hoc* tests showed site specific and sustained (60–120 minutes) increases in PMEPs at gamma tACS and tRNS ($p=0.005, p=0.027$, respectively) and in TMEPs at beta tACS ($p=0.006$). No effects on latencies were evident.

Abstract P349 Figure 1 Effects of tACS and tRNS on pharyngeal motor cortical excitability

Conclusions Our findings suggest that the effects of tACS and tRNS are frequency dependent and cortical site-specific with both Gamma tACS and full-spectrum tRNS enhancing human pharyngeal cortical excitability.

Gastroenterology service

P350 HOW MANY CRCs ARE BEING MISSED AND WHY? AN AUDIT OF PCCRCs AT A DGH

E Abd Al-Shakour*, AR Shirazi-Nejad, AS Soliman, EM Said. Dept of Gastroenterology, Barnsley Hospital NHS FT, Barnsley, UK

10.1136/gutjnl-2020-bsgcampus.424

Introduction Post colonoscopy colorectal cancers (PCCRCs) are defined as a diagnosis of colorectal cancer (CRC) within 3 years of previously negative colonoscopy. The rate is usually calculated after 6 months and 3 years (PCCRC-3y) post-index colonoscopy. JAG states that PCCRCs should be viewed as an adverse event. We aim to evaluate the rate of PCCRCs in our centre. The primary endpoint was to review contributory factors to PCCRCs. The secondary endpoint was analysis of the total number of PCCRCs.

Methods We retrospectively reviewed endoscopy reports for all patients diagnosed with CRC using Infoflex (reporting system) in the period Jan to Dec 2019.

Results 3957 colonoscopies were performed Jan to Dec 2019. 134 (3.38%) patients were diagnosed with CRC. 3/134 (2.23%) patients had PCCRC-3y. All 3 patients were male (mean age 74) and an American Society of Anaesthesiologists (ASA) grade II. All 3 colonoscopies were performed by consultants during normal office hours. Bowel preparation (BP) was inadequate in 1/3. Withdrawal time (WT) and pain score were not recorded in any of the 3 cases. The lesions were found in the sigmoid colon (1), hepatic flexure (1) and caecum.¹

Of the total cohort of 134 patients with CRC, 60.4% were males (mean age 68.4) and 39.5% were females (mean age 67.9). 58.2% had ASA II, 27.61% ASA I and 14.17% had ASA III. 50.7% of colonoscopies were carried out by consultants, 29.85% by nurse endoscopists and 19.45% by specialty doctors. 77.61% of colonoscopies were performed on weekdays and 22.38% during the weekend. WT was not recorded in 20.89% of patients, but the remainder (79.1%) had a mean WT of 15.19 minutes. Pain scores (1–4) were documented as follows: 46.3% none (1), 20.9% mild (2), 8.95% moderate (3), 2.98% severe (4) and not recorded in 20.10%. BP was excellent in 7.46%, good in 40.29%, fair in 36.56%, inadequate in 14.92%, and was not reported in <1%. Anatomical distribution of the CRCs was as follows: 26.86% rectum, 18.65% sigmoid, 18.65% caecum, 8.21% rectosigmoid junction, 5.97% ascending colon, 5.22% descending colon, 4.47% hepatic flexure, 3.73% splenic flexure, 3.73% transverse colon, 3.73% anorectal, and 0.75% terminal ileum.

Conclusions Our audit has shown that the target rate of 2% for the PCCRC-3y benchmark was not achieved¹. Poor adherence to standard documentation of withdrawal time is likely a contributing factor. Improving documentation and optimising bowel preparation will help to determine if these factors influence PCCRC-3y in future audits.

REFERENCE

1. Anderson, R & Burr, N & Valori, R. (2020). Causes of post-colonoscopy colorectal cancers based on world endoscopy organization system of analysis. *Gastroenterology*. 10.1053/j.gastro.2019.12.031.

P351

CONSULTANT RECRUITMENT AND RETENTION – WHAT APPLICANTS SEEK IN A POST. A REGIONAL SURVEY

¹Laura Backhouse, ²Daniel Wheatley*, ³Nick Michell. ¹Royal United Hospitals Bath; ²University Hospitals Bristol; ³Royal Cornwall Hospitals, UK

10.1136/gutjnl-2020-bsgcampus.425

Introduction Nearly half of advertised gastroenterology and hepatology posts remain unfilled (Royal College of Physicians, 2019). It is therefore important to identify key positive and negative factors trainees consider when applying for a consultant job to construct appealing and resilient services, particularly for hard-to-fill posts.

Methods An online questionnaire was sent to south west gastroenterology trainees and to newly-appointed consultants to rate the importance of each factor when considering a consultant job.

Results Our 36 (21 male, 15 female) respondents from a possible of 44 (82%), worked across all training grades and mostly full time (89%). The majority felt geography was very important (n=22, 62%) and personal experience of working in the hospital important (n=19, 53%). Enticing factors to apply included availability of specialist nurses and protected time to develop training and subspecialty.

Financial inducements were less important. General medical on calls was the only factor which actively discouraged job application (n=23, 64%) and links to academic institutions were deemed less important in over half of respondents. 78% of trainees would consider applying for a consultant job outside their training deanery; the influence of the availability to work less than full was inconsistent.

Conclusion This regional survey provides an important insight into applicant views to assist with consultant recruitment and retention. Removing general medicine from gastroenterology, enabling time to develop clinical and managerial skills and availability of specialist nurses are key attractive factors.

Whilst geographical location cannot be changed, personal experience was rated a strong factor influencing job considerations; rotating senior trainees in peripheral hospitals provides an opportunity to negotiate an appealing job plan not previously considered as well as benefiting departments struggling to recruit.

For trainees in the south west financial enticements and academic links were not considered important considerations. Working less than full time (LTFT) was of varying importance but the LTFT workforce is likely to increase in the future as more female trainees obtain substantive consultant posts (Rutter, C, 2018). With the change to pension age rules, consultants may now plan early retirement having an additional impact on the consultant workforce shortage. As salary is less important, offering the option for flexibility when advertising consultant jobs should encourage more applications and hopefully retain the existing consultant workforce as more desirable roles become available.

This has many unique challenges (particularly geographical spread and population density). As such these findings may not be applicable to large conurbations where further surveys are warranted.

P352

CREATION OF A NEW GUIDELINE FOR THE MONITORING OF LIVER FIBROSIS IN PSORIATICS ON METHOTREXATE

William Blad*, Timothy Churchill, Samuel Ashcroft, Rajan Patel, Lucy Howard, Efrossini Carras, Deepak Suri. *Whittington Hospital, London, UK*

10.1136/gutjnl-2020-bsgcampus.426

Introduction Methotrexate is extensively used in dermatology and rheumatology and, to a lesser extent, for inflammatory bowel disease. There is a well-recognised association of methotrexate use and the development of liver fibrosis and cirrhosis. Despite this there is surprising inconsistency in guidelines and in practice for the monitoring for liver-related complications. Patients with psoriasis appear to be at the highest risk of developing liver fibrosis and so the British Association of Dermatology (BAD) stipulates the use of serum procollagen III aminoterminal peptide (PIIINP) three-monthly to monitor for this. However, this test is not used elsewhere as an individual marker of liver fibrosis.

Methods We obtained all PIIINP levels that were raised during the year of 2019 at the Whittington Hospital and reviewed their onward referral and outcomes.

We then performed a literature search on methotrexate therapy and liver toxicity in patients with psoriasis. Using this we created a new evidence-based guidance for the monitoring of liver fibrosis in psoriatic patients commencing methotrexate.

Results Eight patients fulfilled BAD criteria for onward referral to gastroenterology based on their PIIINP levels, of which six were referred and seen. Interestingly, gastroenterologists are generally unaware of the significance and meaning of PIIINP and generally go on to perform further non-invasive tests of liver fibrosis, notably a fibroscan.

Based on the literature review and findings, we generated an alternative guideline on the monitoring of liver fibrosis in psoriatic patients on methotrexate. The guidance advises fibroscan for all patients at baseline and then stratifies patients into high- and low-risk categories based on baseline BMI, alcohol intake and diabetes. Fibroscan interval is based on risk category and baseline level ranging from 1 to 3 years. Those with liver stiffness greater than 9.5 kPa are referred for onward assessment. If unable to obtain fibroscan measurements, PIIINP would be used as before.

Conclusions The incidence of fibrosis secondary the methotrexate toxicity is rare and the greater incidence in psoriatics likely relates to its association with known risk factors for non-alcoholic fatty liver disease and alcohol consumption. PIIINP is a poor predictor of fibrosis in the subset of patients with psoriatic arthritis and is not extensively used outside dermatology, even amongst gastroenterologists. Fibroscan has a good negative predictive value for significant fibrosis and so is a suitable screening test and is in line with current gastroenterology practice

P353

COST EFFECTIVENESS OF TAKING NON-TARGETED ENDOSCOPIC BIOPSIES- CAN WE SAVE TIME AND MONEY?

¹Nicole Cianci*, ¹B Varghese, ¹A Agarwal, ²M Usman, ²A Mandal, ³A Khanna. ¹Nottingham University Hospitals NHS Trust, Nottingham, UK; ²Lincoln County Hospital, Lincoln, UK; ³University Hospitals Birmingham NHS Trust, Birmingham, UK

10.1136/gutjnl-2020-bsgcampus.427