

presence or absence of tumour budding was rarely reported (3% of cases).

Conclusions Accurate and consistent reporting of core data items enables clinicians to apply evidence-based clinical judgment when determining patient management and follow-up. Whilst we observed good compliance with reporting standards overall, our study identified key areas of improvement in the current practice.

1. A clear comment on resection margin status (R0/R1) or a comment explaining the variance should be included.

1. Where polyp subtype and depth of invasion are not assessable, the reason should be clarified in the report to avoid confusion.

2. Consistent reporting of depth and width of invasion parameters should be encouraged. More evidence is emerging of their clinical significance and this can be applied to both pedunculated and sessile lesions.

3. Review and amendment of the proforma to include standardised reporting of tumour budding and grading.

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PTH-111 CHARACTERISING THE ACTIVE HUMAN GUT MICROBIOTA IN HEALTH AND COLORECTAL CANCER

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Introduction Bacteria of the gut are associated with human health and gastrointestinal diseases including cancer. However, the microbial composition and contribution to disease is primarily derived from DNA analysis, representing their potential. The metatranscriptome, the expressed microbial genome, provides meaningful insights into bacterial activity and hence affords a new perspective on the contribution of the microbiota to health and disease. Using human faecal microbiota from colorectal cancer (CRC) and healthy controls, the signature of the active population contributing to health and disease can be established.

Methods High-throughput RNA sequencing of the faecal microbiota (CRC n=10 and control n=10) was analysed via Benjamini-Hochberg (FDR<0.05) adjusted Wald *t*-Tests.

Results Analysis of the active taxonomy, found, that of the 'core' 29 previously CRC-associated (based on DNA analysis) species, only 5 were differentially active, with activity of 3 species decreased and 2 increased. Interestingly, 24 species' activity remained unchanged in CRC, highlighting inconsistencies between abundance and activity. We also found that expression of specific genes critical for microbial mucus colonisation, permeability and modification is significantly greater during CRC. This strongly argues that the microbiota compromise the defensive capacity of the mucosa as the physical barrier during CRC. Intriguingly, expression of genes e.g. peroxidase, which control the level of reactive oxygen/nitrogen species (ROS) in the gut, was found to be reduced in CRC. This suggests that one of the central roles bacteria play during homeostasis, is to balance production

and decomposition of ROS e.g. hydrogen peroxide in the gut, the failure of which, may prompt accumulation of genetic lesions. 16 butyrate-producing species known to modulate inflammation and barrier function e.g. Clostridium groups XIVa and IV, who have diminished abundance in CRC also exhibit lower activity. Furthermore, expression of the key butyrate synthesis gene, butyryl-CoA:acetate CoA-transferase was found to be under expressed during CRC. This argues depleted activity of butyrate-producing bacteria via the major butyrate production pathway is a true signature of CRC.

Conclusions We show that the taxonomy of active microbiota is not always consistent with abundances established by DNA sequencing, which appear to somewhat overestimate shifts in bacterial populations between homeostasis and disease. These novel data will light the path to targeting microbial gene expression as a means of next-generation therapeutic strategy to combat inflammatory diseases of the gut.

PTH-112 THE YIELD OF COLONIC INVESTIGATIONS FOLLOWING AN EPISODE OF ACUTE DIVERTICULITIS

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Introduction The practice of undertaking colonic investigations following an index episode of acute diverticulitis is widespread. Recent guidelines suggest that this is not necessary, particularly in patients with uncomplicated diverticulitis.¹ We have evaluated the yield of colonic investigations in patients after an index episode of acute diverticulitis.

Method We conducted a retrospective analysis of all patients who were admitted to our tertiary centre with acute diverticulitis between January 2017 and December 2019. All patients had symptoms compatible with acute diverticulitis with corresponding findings on computed tomography (CT) imaging. Patients with complicated diverticulitis were defined as CT evidence of abscesses, fistulations, strictures or perforations.

Results 602 patients with acute diverticulitis (366 females, mean age 62.4 (SD +/- 14.7 years old) were identified. 74.1% of patients (n=446) had uncomplicated diverticulitis and 25.9% (n=156) had complicated diverticulitis. Overall 68.6% (n=413) were referred for further investigation. In patients with uncomplicated diverticulitis, 65.9% underwent investigations (colonoscopy 33.6% (150), flexible sigmoidoscopy 37.7% (168)). 51 (11.4%) patients did not attend their endoscopic investigations. Colorectal cancer (CRC) was not detected in any patient with uncomplicated diverticulitis. In patients with complicated diverticulitis, 60.9% underwent investigation (colonoscopy 31.4% (49), flexible sigmoidoscopy 29.5% (46)). 14 (9.0%) patients did not attend their endoscopic investigations. CRC was identified in two patients, both of whom were already suspected to have CRC on their index CT.

Conclusion In our cohort of patients who underwent colonic investigations following an index episode of acute diverticulitis, the rate of CRC was 0.33%, however, in both cases this was suspected on initial imaging. Our data are consistent with recent guidelines suggesting that patients with acute uncomplicated diverticulitis do not require further colonic investigations.

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Neurogastroenterology

PWE-53 THE RELATIONSHIP BETWEEN HOSPITAL ADMISSIONS FOR CONSTIPATION AND OPIOID PRESCRIBING: A 20 YEAR CORRELATION STUDY

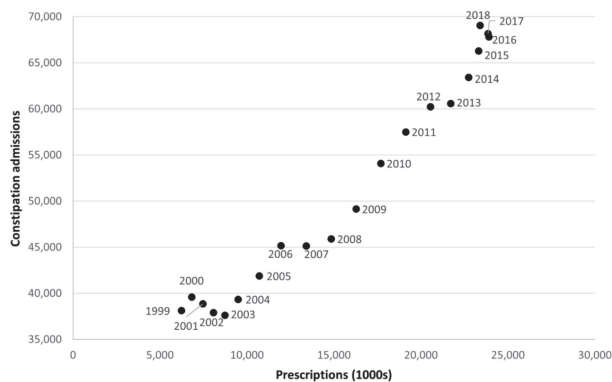
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Background Constipation is a common problem with numerous causes, including several drugs among which opiates are prominent. Considering the reported increase in opioid prescriptions worldwide, we hypothesised that if this is mirrored in England then hospital admissions for constipation would rise in proportion to the rise in opiate prescriptions.

Methods Publicly available data on admissions was obtained using NHS Hospital Admissions Statistics and data on opioid prescribing using NHS Prescription Cost Analysis. Admissions and opioid prescriptions were summarised annually, and the changing age structure of the population measured as the proportion over 75 between 1998 and 2020. Annual opioid prescriptions were plotted against annual admissions for constipation and the data modelled using Poisson regression to correct for the effect of changing population structure.

Results Between 1998 and 2018, opioid prescribing increased by a factor of 5 and constipation admissions have increased across age groups except (0-14). Patients are spending less days in hospital (declining from a mean of 5 to 3 days) per admission with the overall number of bed days remaining relatively consistent over the past 20 years. The English population has become more elderly with the proportion over 75 years of age increasing. A plot of opioid prescriptions against admissions for constipation confirms that they rise together (Figure 1). Poisson regression shows that admissions rise with an incidence rate ratio of 1.025 (95% CI 1.024-1.026) for



Abstract PWE-53 Figure 1 Plot of constipation admissions against opioid prescriptions between the years 1998-1999 (referred to as above as 1999) and 2017-2018 (2018)

every million extra prescriptions after correcting for the aging population.

Discussion The findings demonstrate a clear association between opioid prescribing and constipation in England over the last 2 decades. We are unable to correct for the effect of most potential confounders, although we have attempted to address the possible effect of an aging population. The ecological nature of the study in addition precludes us attributing causality to the association. However, the strength of the relationship, the biological plausibility of the mechanism and the importance of the problem, mean this needs to be investigated further.

PWE-54 TRANSDUODENAL SPHINCTEROPLASTY IN THE MANAGEMENT OF REFRACTORY PAIN IN TYPE II SPHINCTER OF ODDI DYSFUNCTION

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Introduction The management of Type II sphincter of Oddi dysfunction (SOD) or functional biliary sphincter disorder (FBSOD) is complex. Endoscopic biliary sphincterotomy is ineffective in a proportion of patients and many patients continue to experience debilitating attacks pancreaticobiliary pain necessitating multiple hospital admissions. Intermittent intra-sphincteric Botulinum toxin (Botox) injection, in conjunction with neuromodulatory therapy is useful in alleviating pain in many patients with ongoing functional biliary pain¹, but some patients develop pain refractory to Botox therapy. Surgical biliary sphincteroplasty has been previously demonstrated to be effective in the management of SOD.² We present our experience in managing refractory pancreaticobiliary pain in FBSOD by surgical sphincteroplasty.

Methods A retrospective review of case notes over a 7-year period (2013-2020) was performed. The diagnosis of Type II SOD or FBSOD was made in post cholecystectomy patients with abdominal pain identical to their pre-cholecystectomy pain. All patients underwent extensive investigations including blood tests, gastroscopy, trans-abdominal ultrasonography, cross-sectional imaging with MRCP or CT and endoscopic ultrasound and Morphine TBIDA scans. Patients with typical pre-cholecystectomy pain and either a dilated bile or abnormal liver function tests (ALT or ALP x 1.5 times upper limit of normal) in line with the modified Milwaukee criteria and/or a positive Morphine TBIDA scan were identified as Type II SOD or FBSOD. All patients underwent endoscopic biliary sphincterotomy and due to ongoing pancreaticobiliary pain, underwent intermittent Botox injections, under deep sedation or anaesthesia, in a quadrantic fashion around the sphincterotomised ampullary area. Transduodenal surgical sphincteroplasty was performed in these patients once their pain became refractory to further Botox therapy. The efficacy of surgical sphincteroplasty was recorded at post-procedure outpatient review using a nominal pain scale. The need for opioid analgesia and adjustments to neuromodulatory medication were recorded on follow up.