prolonged faecal tagging). We evaluated the diagnostic accuracy of FIT for colorectal cancer (CRC) and other significant bowel disease (SBD: inflammatory bowel disease, high-risk polyps as per 2020 BSG post-polypectomy guidelines) across a range of FIT thresholds (<10µg/g, 10-50µg/g, and >50µg/g). Multivariable logistic regression was performed to assess the predictive value of various demographic (age, gender) and clinical variables (lower GI symptoms, two-week vs non two-week referrals) in the prediction of CRC and SBD.

Results 481 patients (21-95 years, median 62 years) were included in the analysis. The prevalence of CRC in this cohort was 6.6%. The negative predictive values of FIT for CRC at three cut-offs (10µg/g, 50µg/g and 100µg/g) were 98.3% (95%CI 93.6-99.5%), 98.1% (95%CI 96.2-99.1%) and 96.7% (95%CI 94.9-97.9) respectively. The sensitivities at these cut-offs were 93.8% (95%CI 79.2-99.2%), 81.3% (95%CI 63.6-92.8%) and 62.5% (95%CI 43.7-78.9%) respectively. Based on a 10µg/g cut-off, two CRCs would have been missed, both of which arose in males over 75 years old. Multivariate regression analyses demonstrate that increasing age, male gender, and FIT>50µg/g are the sole of predictors of CRC (see table) and SBD.

Conclusions A combination of age, male gender and FIT values are most predictive variables of future CRC and SBD risk. In the current post-COVID environment, FIT can play a role in streamlining lower GI investigations for two-week referrals, where FIT >50µg/g are prioritised as most urgent. Units with significant endoscopy backlogs could also consider de-escalating two-week referrals of younger patients with low FIT values (<10µg/g).

PTH-109 THE BOTTOM LINE: REAL WORLD MANAGEMENT OF ACUTE LOWER GASTROINTESTINAL BLEEDING COMPARED TO BSG GUIDELINES

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Introduction Lower gastrointestinal bleeding (LGIB) is a common hospital presentation, from self-limiting per-rectal bleeding to a life-threatening haemorrhage. British Society of Gastroenterology (BSG) acute LGIB guidelines define a clear management approach including risk stratification for patient management. However, real-world management of LGIB in relation to this guidance is currently unknown.

Methods Patients aged ≥16 years presenting with LGIB to 7 hospital trusts from June 1st-Aug 31st 2019 were included. Data on presentation, management and outcomes of patients were recorded. These were audited against BSG guidelines.

Results 407 patients were included. 51% were male with a mean age of 60 (SD = 22). Mean Shock Index (SI) at presentation was 0.69, with a SI ≥ 1 being rare (6.3%). 2.2% (9/407) of patients remained haemodynamically unstable (SI >1) after initial resuscitation. Of these, 22.2% underwent a computed tomogram angiography (CTA). Within the major bleed risk patients (Oakland Score >8); 284 (85%) were admitted and 50 (15%) were discharged from A&E. For minor bleed

risk patients (Oakland Score ≤8); 67.9% and 32.1% were admitted and discharged respectively. Complete Oakland Score data was unavailable for 7 patients. Of admitted patients, colonoscopy and sigmoidoscopy was performed in 4.3% and 14.6% respectively, whilst 81.8% underwent no inpatient LGI endoscopy. A bleeding site was seen in 12 (20%) patients at endoscopy, for which 2 (10%) received endoscopic therapy. 7-day rebleeding rates were higher in patients who underwent LGI endoscopy versus those conservatively managed (16.7% vs 7.5%, p=0.028). Inpatient mortality was low at 2.1%, with no difference in major vs minor bleed patients (2.1% vs 2.6%, p=1.0). Median length of stay was 5.5 days in patients who received LGI endoscopy and 2 days for those conservatively managed (p= < 0.00001). 15.3% of patients were managed in accordance with BSG guidance. The most common deviations being patients with an Oakland Score >8 being discharged and admitted patients not undergoing LGI endoscopy. **Conclusions** Real world practice of managing patients presenting with LGIB is not in keeping with current BSG guidelines, with admission or discharge often not in keeping with Oakland Scores. The majority of admitted patients do not receive inpatient LGI endoscopy, in patients who do, endoscopic therapy is rarely indicated.

PTH-110 AN AUDIT EVALUATING REPORTING OF PT1 COLORECTAL CANCERS AT THE ROYAL DEVON AND EXETER HOSPITAL

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Introduction The pathology report plays a vital role in assisting the multidisciplinary team to risk stratify colorectal cancers (CRCs). We evaluated our departmental practice of reporting polyp cancers in local resection specimens and suggested appropriate recommendations for quality improvement.

Methods A database search identified patients who had been diagnosed with pT1 CRCs in colonic polyps between March 2014 and December 2018. Gold standards for histologic reporting of specimens were obtained from the Royal College of Pathologists' minimum data set and NHS Bowel Cancer Screening Programme (NHSBCSP) guidelines. An internal review of pathology reports assessed compliance against these gold standards and the inclusion of newly emerged prognostic parameters.

Results 70 patients diagnosed with pT1 CRC in colonic polyps were identified during this period. 32.8% of these cases were polyps identified through the Bowel Cancer Screening programme. Two pathologists, as recommended by the NHSBCSP, reported 100% of cases. Tumour differentiation and lymphovascular invasion were reported in over 90% and 80% of cases. 100% of sessile polyps were assigned a Kikuchi level and/or carried a comment to that effect. Haggitt level was reported in 86% of pedunculated polyps. In 17% of cases, no comment on the level of submucosal invasion was included. In the majority of these cases (75%), it was deemed difficult to classify the polyps as either pedunculated or sessile, likely due to fragmentation or suboptimal orientation. The depth and width of the invasive tumour, as described by Ueno et al.¹, were reported in 47% and 41% respectively. 20% of reports did not mention the distance from the deep margin, 12.8% of the 20% stated this margin was not assessable. The

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.