Subsequently increased numbers of referrals are being made to secondary care, escalating the demand of colonoscopies and other current investigation methods.

Methods Data was collected from a prospectively maintained database between January 2011 and December 2017. 1950 patients who were assessed via our telephone triage service were included in the study. Patients were followed up until either diagnosis or discharge. The specific investigation(s) each patient underwent was recorded. And costed as per NHS tariff (2018). Using current sensitivity/specificity data related to FIT all true positive/negatives, false positives/negatives, positive predictive value and negative predictive value was calculated as if FIT was used as the diagnostic test used for each patient. This was then compared to the costing as per the current methods.

Results Median age was 65 (IQ 47–82) with 43.37% male and 56.3% female. 2898 investigations were carried out with a diagnostic yield of 26 cancers (18 colon, 8 rectal), 138 polyps and 29 high risk polyps (HGD ± >10 mm). £713,948 was spent in total for the investigations. The commonest investigation was colonoscopy and totalled £533,169. The total cost for each cancer was £28,500 per diagnosis. Sensitivity (92.1% CI 86.9–95.3) and specificity (85.8% CI 78.3–90.1) for FIT in colorectal cancer was taken from NICE and was costed via the manufacturer(s). The total cost for the same population using a ≥10 µg haemoglobin cut off would be £168,780 equating to £6492 per cancer. The total cost of high-risk polyps using ≥10 µg cut off was £233,909 (sensitivity 68.9% CI 53.2–81.4, specificity 80.2%CI 76.1–83.7) or £10,169 per polyp.

Conclusions FIT is a cheap alternative diagnostic test to replace current methods with similar effectiveness.

P304 USING FAECAL IMMUNOCHEMICAL TESTS (FIT) FOR LARGE-SCALE GUT MICROBIOTA ANALYSIS

[1,2]S Koo*, [1]A Masi*, [1,3]CA Lamb, [4]MA Hull, [1]L Sharp, [5]A Nelson, [1,2]JS Hampton, [1,2]CJ§ Rees, [1]CJ§ Stewart. *[1]Newcastle University; [2]South Tyneside And Sunderland NHS Foundation Trust; [3]Newcastle Upon Tyne NHS Foundation Trust; [4]University of Leeds; [5]Northumbria University; *Joint First Author; §Joint Senior Author*

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Introduction Accumulating evidence suggests that the gut microbiome is important in GI disease. There is an urgent need for large-scale population-based studies to better understand intestinal microbiota as a disease risk factor. However stool sampling is complex, unacceptable to some and is influenced by confounders such as bowel preparation.

We aimed to test if accurate microbiome data can be obtained from Faecal Immunochemical Test (FIT) kits (OC Sensor, Mast diagnostics) when compared to DNAGenotek tubes (OMNIgene®•GUT; OG) (current accepted standard) and fresh faeces. We considered microbiome profile stability over time, mimicking real world scenarios and explored if speed vacuum (SV) or freeze-dry (FD) concentration of samples is necessary.

Methods A faecal sample was provided by 10 healthy volunteers and immediately sampled for DNA extraction after varying periods of storage and conditions 1) Fresh 2) FIT Day 0 3) FIT Day 0 SV 4) FIT Day 0 FD 5) OG Day 10 6) FIT Day 10 7) FIT Day 10 -80°C 8) FIT Day 10 -80°C SV 9) FIT Day 10 -80°C FD 10) Fresh -80°C 11) FIT day 20.

125 samples including negative and positive controls underwent V4 16S rRNA gene sequencing. All samples were rarefied to 10,000 reads.

Results Alpha-diversity was consistent within individuals regardless of test condition with richness (P=0.9) and Shannon diversity (P=0.44) comparable across conditions. Beta-diversity based on Bray-Curtis dissimilarity showed samples grouped by patient (P<0.001) and not test condition (P=0.28), which was consistent with presence/absence Jaccard index (patient P<0.001; condition P=0.84). While overall microbiota profiles were consistent within individuals, eight genera were significantly different between fresh, OG day 10, and FIT day 10 conditions. *Blutia*, *Anaerostipes*, *Bifidobacterium*, and *Lachnospiracea* were higher in FIT samples stored for 10 days at room temperature, with *Parabacteroides*, *Bacteroides*, and *Sutterella* lower (all P>0.05). Storage of FIT samples over 20 days resulted in no significant difference in alpha- or beta-diversity, but *Parabacteroides* reduced significantly between day 0 (mean 0.9% relative abundance) and 20 (mean 0.2% relative abundance; P=0.006). Storage at **-80°C and concentrating samples by SV or FD** had no effect on alpha-diversity, beta-diversity or taxonomic profiles.

Conclusions Faecal microbiome diversity and overall taxonomic profiles were relatively consistent across test conditions. FIT kits may provide an accurate, convenient, and cost-effective means of studying the faecal microbiome in large, representative, populations.

P305 THE OPTIMAL INVESTIGATION FOR LOW RISK BRIGHT RED RECTAL BLEEDING IN PATIENTS UNDER 50 YEARS

Celina Ledgard*, Adrian Ireland. *South Infirmary Victoria University Hospital, Cork, Ireland*

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Introduction This study used Irish data to determine the yield of significant pathology from full vs limited endoscopy in patients under 50 years of age presenting with low-risk bright red rectal bleeding as discrepancy in practice exists between first world countries regarding the most appropriate investigation. The invasiveness, potential procedural risks and hospital resources that colonoscopy involves must be balanced with yield of pathology.

Methods This retrospective study collated data entered prospectively into the Unisoft database from the South Infirmary-Victoria University Hospital, Cork, of patients who had endoscopic evaluation for rectal bleeding between September 2017–2019. Rectal bleeding was a symptom for endoscopy in 1159 patients. Patients with other bowel symptoms (excluding rectal outlet pain & constipation), personal or family history of colorectal cancer or inflammatory bowel disease, weight loss or anaemia were excluded. The histological reports of the remaining 'low-risk' patients (n=709) were reviewed. Adenomatous polyps and cancers were considered significant pathology. The data was grouped by age into 0–29 yrs (n=68), 30–39 yrs (n=182), 40–49 yrs (n=177) for evaluation and compared with ≥50 yrs (n=282). Full vs limited colonoscopy procedures were compared.

Results Significant pathology (adenomatous polyps/tumours) was found in 105 individuals, with 8.7% of <50 year olds having significant pathology compared with 24% of ≥50 year olds. No patients <30 had 'significant pathology' with either

endoscopic modality but 75% had anal pathology including haemorrhoids, fissures, skin tags or prolapse. In patients 30–39 yrs, two had rectal tumours (1.1%) and twelve had adenomatous polyps (6.6%), five of these being high risk polyps (2.7%). There were no tumours in patients 40–49 yrs but 23 had adenomatous polyps (13.0%), eleven of these being high risk (6.2%). In the ≥50 yrs comparison group, ten had colorectal tumours (3.5%) and 58 had adenomatous polyps (20.6%), 24 of these being high risk (8.5%). Colonoscopy overall comparatively had a much higher pick up rate than limited colonoscopy in all age groups. For <50 yrs colonoscopy had an adenomatous polyp identification rate of 14.7% compared to 7.0% on limited colonoscopy. ≥50 yrs was similar with colonoscopy having a rate of 24.6% compared with 10.8% on limited colonoscopy.

Conclusions This study concludes endoscopy would be necessary to evaluate low risk rectal bleeding in patients aged 30–49 yrs given the rate of significant pathology found, with colonoscopy being the preferred modality due to its much higher identification rate. Patients under 30 with low risk rectal bleeding could be examined in clinic for anal pathology. If no anal bleeding source is found further endoscopic investigation should be considered.

P306 STENTING FOR COLORECTAL CANCER: ARE WE ADHERING TO GUIDELINES? AN OVERVIEW AT A DISTRICT GENERAL HOSPITAL

Dhanoop Mohandas*, Ashnish Sinha, Robert Mead, Simon Greenfield, David Rowlands. *East And North Herts Nhs Trust, Stevenage, UK*

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Introduction Colorectal stenting provides an option for treating and preventing BO, improving symptoms while occasionally bridging to surgery for colorectal cancer (CRC). NICE suggests self-expanding metal stent (SEMS) for the initial management of left sided CRC causing acute BO while ESGE advises SEMS as palliation tool in malignant obstruction or in patients with a high risk of postoperative mortality[1]. We audited patients with CRC treated with colonic stenting locally to investigate compliance with guidelines and outcomes.

Methods In this retrospective study, cases of colonic stenting for CRC over a 5 year period from 1/12/2014 to 1/12/2019 were identified via CIPTS (Delian Systems) an online database of endoscopic procedures. Further demographic and outcome measures including procedure complications, 30-day mortality, intervention location and stent type were collected.

Results Overall 40 patients underwent colonic stenting with Boston Scientific Wireflex stents performed by 3 operators. 42 cases occurred due to two cases of stent migration requiring revision. The mean population age was 77 years with a female preponderance (N=23,57.5%). Overall 30 day mortality was 10% (N=4) whilst 90 day survival was 70% (N=28). Three patients had stenting as bridge therapy to surgical intervention. Complication rates were low with only stent migration (N=2), wire perforation(N=1) and stent fracture(N=1, no reintervention needed) occurring. Therapy was predominantly for Sigmoid lesions(N=21) followed by Descending Colon(N=11) and Splenic Flexure(N=3).

Conclusions Colonic stenting is an effective palliation therapy for obstructing CRC. It is efficacious with low complication rates. Mortality data is comparable to reported emergency surgical data. Survival to 90 days was promising considering many patients had significant comorbidities or metastatic disease when stented. Three cases were bridged to surgery with stenting for optimisation, though not recommended by ESGE. Post-operative and surgical costs were negated with one patient requiring admission post stenting. We acknowledge the low number of patients but offer evidence that our stenting service run by experienced operators is successful. We appreciate that, in general, stenting was compliant with current ESGE guidance.[1] We aim to further collate surgical CRC treatment data over this period and compare outcomes.

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P307 FMT-ASSOCIATED ALTERATIONS IN THE TCR REPERTOIRE OF PATIENTS WITH SEVERE OR FULMINANT CLOSTRIDIOIDES DIFFICILE INFECTION

[1,2]Tanya Monaghan*, [3]Lindsey Russell, [4]Elisa Rosati, [5]Benjamin Mullish, [3]Brandi Roach, [3]Karen Wong, [3]Gane Ka-Shu Wong, [6]Christos Polytarchou, [4]Andre Franke, [5]Julian Marchesi, [3]Dina Kao. *[1]Nottingham Digestive Diseases Centre, University Of Nottingham, Nottingham, UK; [2]NIHR Nottingham Biomedical Research Centre, and Nottingham University Hospitals NHS Trust, University of Nottingham, Nottingham, UK; [3]Division of Gastroenterology, University of Alberta, Edmonton, Canada; [4]Institute of Clinical Molecular Biology, Kiel University, Kiel, Germany; [5]Division of Integrative Systems Medicine and Digestive Disease, Imperial College London, London, UK; [6]Department of Biosciences, John van Geest Cancer Research Centre, Nottingham Trent University, Nottingham, UK*

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Introduction The adaptive immune system is important in modulating disease outcomes in *Clostridioides difficile* infection (CDI). Herein, we sought to characterize the TCRα and TCRβ repertoire in peripheral blood mononuclear cells (PBMCs) pre- and post-sequential Faecal Transplantation (FMT) for the treatment of patients with severe or fulminant CDI.

Methods Three patients were included in the study: 1 patient had fulminant CDI with shock while 2 patients had severe CDI. Each cycle of treatment consisted of daily FMT by enema for 3 days plus fidaxomicin 200 mg PO BID for 7–10 days. Samples were collected every 5 days over a period of 4 weeks, then at 6 weeks. Two patients had resolution of diarrhoea 2 weeks following 2 treatment cycles. Two different FMT donor samples were also analysed. Total RNA isolated from PBMCs was used for TCR library preparation using unique molecular identifiers (UMIs). Samples underwent targeted cDNA synthesis, using primers for the constant region of TCRα and TCRβ chains. Libraries were sequenced on Illumina NovaSeq6000. Data pre-processing was conducted using the MIGEC and MIXCR software. We analysed repertoire clonality over time and temporal clonal abundance trajectories of specific TCRs during treatment.

Results The 2 FMT donors displayed lower clonality compared to all 3 CDI patients. Both treatment responders exhibited stable clonality profiles over time. In the non-responder (fulminant CDI), clonality was much higher pre-FMT and drastically decreased following the first cycle of FMT when