

Abstract P301 Table 1

Size	Location Right.: Left	Morphology Pedunculated.: Sessile	Adenoma	HGD	SSL	Cancer	Other
≤ 5 mm (N=10775)	50.3% 49.7%	3.7% 96.3%	64.3%	0.6%	19.5%	0.0%	15.6%
6–10 mm (N=2365)	30.8% 69.2%	31.75% 68.25%	74.1%	4.05%	16.1%	0.17%	5.58%
11–19 mm (N=1759)	31% 69%	46.9% 53.1%	76.5%	12.9%	6.3%	1.1%	3.2%
≥ 20 mm (N=1007)	24% 76%	14.1% 85.9%	66.4%	16.9%	7.7%	7.7%	1.3%

pathology reporting system. Statistical analysis was performed using multinomial logistic regression.

**Results** A total of 15906 polyps were removed at colonoscopy over the specified period. Mean size was 7.3 mm (range: 1 to 120 mm). 86.6% of all polyps were non pedunculated and 56.3% polyps were located in the left colon. The size, site, morphology and histology of these polyps is shown in table 1.

A histopathological diagnosis of polyp cancer was made in 104/15906 polyps (0.65%). 94/104 polyp cancers (90.25%) were associated with non pedunculated morphology [OR 1.45, 95%CI 0.75–2.78 p=0.005].

Risk of developing in cancer in polyps ≥20 mm was significantly higher than in smaller polyps [ OR 6.57 95% CI 5.7–13.1 p< 0.001 ].

89 cancers were found in the left colon and rectum compared with 15 cancers in the right colon ( 85.5% vs 14.5%) [OR 1.98, 95%CI 0.9–3.1 p=0.007].

**Conclusion** This is the largest report of the prevalence of cancer in colorectal lesions 6–10 mm in size. We have demonstrated that the prevalence of covert cancer in colorectal lesions <5 mm is negligible and that of polyps 6–10 mm is very low (0.17%). All these cancers were in non-pedunculated adenomas in left colon. Based on the data, we have demonstrated in the 6–10 mm polyp subgroup, we suggest a modified ‘resect and discard’ concept ( based on OD AND location based strategy) extending to 6–10 mm polyps in the right colon. Given the fact, that most non experts fail to reach PIVI criteria based on OD alone, this modified strategy would reduce the need for optical assessment and increase the scope of ‘resect and discard’ to a larger number of polyps.

P302

### SINGLE CENTRE EXPERIENCE OF EFFICACY AND SAFETY OF FAECAL MICROBIOTA TRANSPLANTATION FOR CLOSTRIDIUM DIFFICILE DIARRHOEA

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**Introduction** Clostridium Difficile diarrhoea is common in hospitalized patients especially in elderly, immunocompromised or those who have had multiple broad spectrum antibiotics. C.Difficile Diarrhoea is difficult to treat and has high recurrence rate. Faecal microbiota transplantation has emerged as a novel and highly effective alternate to antibiotics for treatment of C. Difficile diarrhoea but there have been reports of sepsis and aspiration pneumonia following FMT.

**Methods** We reviewed the outcomes and complication rates in patients with C Difficile diarrhoea who were treated

with FMT. A list of all patients treated with FMT was obtained and their notes, drug charts and blood results were reviewed. The number of antibiotic courses and types of antibiotic received prior to FMT was recorded. The number of previous C diff episodes was also recorded. Medisec and clinical notes were used to follow-up the patients for 1 year to look for recurrence and complications.

**Results** 28 patients were treated with FMT after failing multiple courses of antibiotics. 20 patients (71.4%) were male and 8 (28.5%) were female with an average age of 73.89 years.

In 20 patients, FMT was given after second or more recurrence of C Difficile. In 8 patients FMT was given after 1st recurrence of C Difficile Diarrhoea after failed antibiotic response and worsening diarrhoea.

NG was the preferred route, used in 19 patients with NJ used in 4 and PEG used in 2 patients. 2 patients had FMT via rectal enema and route could not be identified in 2 patients.

In total, 29 courses of Fidoxamicin were used. 39 courses of vancomycin were used including weaning courses in 2 patients and metronidazole was used 18 times. In total these patients (28) had 76 courses of antibiotics prior to receiving FMT.(2.71 courses per patient or 27 days of antibiotics!)

26 patients(92.8%) required 1 treatment of FMT and 2 patients (7.14%) required second course of FMT.

On follow up over 1 year following index FMT treatment, 3 patients (10.7%) of patients had recurrence of C Difficile diarrhoea. No immediate or late complications were observed in any of the patients receiving FMT. All patients who had prolonged stays in hospital due to C Difficile diarrhoea were discharged within 7 days of FMT therapy and all were diarrhoea free at the time of discharge.

**Conclusion** FMT is a safe and highly effective therapy for C Difficile diarrhoea and significantly shortens patient stay in hospital and should be considered after 1st episode of recurrence of C Difficile diarrhoea.

P303

### COST COMPARISON OF FAECAL IMMUNOCHEMICAL TESTS TO CONVENTIONAL METHODS AS DIAGNOSTIC TOOL IN COLORECTAL CANCER

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**Introduction** With rising awareness of colorectal cancer in the general public there has been an increase in the numbers of patients presenting to primary care with suspected malignancy.

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  $\pm$  >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  $\geq 10$   $\mu$ g haemoglobin cut off would be £168,780 equating to £6492 per cancer. The total cost of high-risk polyps using  $\geq 10$   $\mu$ g 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

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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 *Lachnospiraceae* 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

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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 Infirmiry-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  $\geq 50$  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  $\geq 50$  year olds. No patients <30 had ‘significant pathology’ with either