bacterial metabolism. We aimed to compare the faecal metabolome before and after ferrous sulphate supplementation.

Methods 77 faecal samples were collected from patients with iron deficiency anaemia, before treatment and after two months of therapy. Faecal headspace gases were analysed using gas chromatography–mass spectrometry: VOC identification involved matching mass spectra against the NIST Library. Univariate and multivariate analysis was performed on the VOCs found, including partial least squares regression (PLS-DA).

Results A significant change in abundance of 17 VOCs was found. Adjustment was made for the number of comparisons: one VOC was then shown to increase significantly. The median abundance of 2-pentylfuran changed four-fold (FDR adjusted $P = 0.006$) in patients taking ferrous sulphate for two months (Fig. 1A). Overall, a plot to illustrate the PLS-DA shows how the pre- and post-treatment samples differ (Fig. 1B). Though the abundance changed in 16 other VOCs—which included aldehydes, esters and ketones—their significance was lost after correction for multiple testing, which indicates that the study may be underpowered.

Conclusions The abundance of faecal 2-pentylfuran increases significantly during ferrous sulphate therapy. 2-pentylfuran is a metabolite of fungi. It remains to be seen whether ferrous sulphate directly acts on fungi or whether there is an interaction between iron and bacteria, and then between bacteria and fungi. It is very clear that faecal metabolites are influenced by ferrous sulphate supplementation.

OWE-22 ROLE OF LOW GRADE DYSPLASIA SMALL POLYPS DURING SCREENING COLONOSCOPIES SURVEILLANCE: A PROSPECTIVE COHORT STUDY

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Background The role diminutive polyps and small polyps play in the development of advanced neoplasia (AN) or cancer during follow-up (FU) continues to be debated. Recent studies have shown that the risk of AN development during FU is higher in patients with > 5 small polyps but similar in patients with – or – small polyps^{2,3}. Given these findings, the current study aimed to evaluate if current European FU guidelines¹ at first screening colonoscopy according to the number of low-grade dysplasia tubular adenoma < 1 cm (“micropolyps”, MP) are too strict.

Methods A longitudinal cohort study was carried out on a representative sample (50%) of patients who underwent a screening colonoscopy (clean colon) in 2010 showing at least 1 polyp. Patients with AN or cancers were excluded. Polyps > 1 cm or villous or high grade dysplasia/carcinoma in situ were considered AN. These patients made a FU colonoscopy according to UE screening CCR guidelines. Patients were split up according to European guidelines in Low risk (– MP), Intermediate risk (– MP) and High risk (>5 MP). Data were analyzed by SPSS program.

Results Of 640 patients included in the sample 172 (27%) were included in the surveillance program (mean age 62,2±5,7 yr, 5–0), 120 male (69,8%). During first colonoscopy (2010) 370 MP were detected (M±SD 2,1±1,5, range –3 polyps for each patient). During FU (median 5.5 years), 315 colonoscopies were performed (mean 1.8; range –) and an

AN was detected in 23 patients (13.4%): 20/23 tubulovillous microadenoma, 1/23 high grade dysplasia, 2/23 tubular adenoma > 1 cm. The detection of AN among patients in treatment with ASA was non significantly lower than the others. AN detection was lower among Low risk patients (13/108; 10.7%) as compared to Intermediate risk (7/33; 17.5%) and High risk (3/8; 27.3%) ($P=ns$). According to Kaplan-Meier analysis, the cumulative risk of AN among High risk was significantly increased ($p=0.035$) (figure 1). No interval cancers were found during the follow-up.

Abstract OWE-22 Figure 1

Conclusions These findings suggest that EU guidelines for surveillance colonoscopies for > 3 small LGD polyps are excessively strict. We propose extending the time for a repeat colonoscopy FU for these patients to 5 yrs

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OWE-23 VERSATILE ROLE OF SECRETED FRIZZLED RELATED PROTEIN 2 (SFRP2) IN COLON CANCER: POTENTIAL STROMAL TARGET

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Introduction Dysfunctional adipose tissue has emerged as a key contributor to colorectal cancer. However, the role of peritumoral adipose tissue (pAT) in colon cancer has not been widely investigated. Aim of this study is to identify differentially expressed genes (DEGs) associated with cancer pathways in peritumoral adipose tissue compared with adjacent normal adipose tissue in human colon cancer.

Methods Fresh peritumoral and distal adipose tissue samples were collected from 6 patients undergoing surgery for colon cancer stage T3/T4. DEGs were identified employing Nanostring PanCancer Pathway Panel including 770 cancer-associated genes. Criteria for differential expression included p-value

<0.05, fold-change greater than 2-fold and average normalised expression greater than 3. Five upregulated DEGs with the highest logarithmic fold change and 2 down regulated genes were validated using quantitative real-time polymerase chain reaction (RT-PCR). Protein expression of significantly DEG was evaluated with immunohistochemistry (IHC) in tumour tissue, peritumour adipose tissue and distal adipose tissue slides.

Results A total of 64/770 DEGs were identified in peritumoral adipose tissue compared to distal adipose tissue. Up-regulated genes (28.1%) included COL1A1, SFRP2, FGF7, PLA2G2A, NGFR and SFRP2. Down regulated genes (71.9%) included LEF1 and CDH1. Differential expression was validated with qRT-PCR (COL1A1 $p=0.007$; SFRP2 $p=0.057$; FGF7 ns; PLA2G2A ns; NGFR ns; LeF1 $p=0.03$; CDH1 $p=0.09$). IHC revealed differential distribution of COL1A1 showing maximum expression in tumor tissue decreasing at more distant sites.

Conclusion Our results have shown altered cancer associated pathways in peritumour stromal compartment, including down-regulation of Wnt/Wingless/Integrated (WNT) pathway. Furthermore, we have identified significant up regulation of COL1A1 in peritumour adipose tissue compared to distal adipose tissue. COL1A1 may have a role in local invasion and distant metastasis, possibly mediated by SFRP2, a known pro-collagen c proteinase enhancer and WNT antagonist. SFRP2 and COL1A1 may represent potential stromal therapeutic targets in colon cancer.

OWE-24 CT COLONOGRAPHY IN NATIONAL BOWEL SCREENING PROGRAM, IS IT REDUCING THE BURDEN?

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Introduction CT Colonography (CTC) or virtual colonoscopy offers an effective non-invasive technique to assess the bowel

if conventional colonoscopy fails or is not done due to patients' factors.

Aim of the work To identify if CTC can actually help decrease the burden by decreasing the number and type of endoscopy required especially in patients with multiple comorbidity.

Methods We reviewed CTC requested for patients in the National bowel screening program over a period of 9 years from end of 2009 till beginning of 2018. Post CTC colonoscopy was reviewed and results assessed.

Results 220 CTC procedures were requested over the study period for 206 patients. Most patients (194) required one CTC, ten patients had it twice and two patients had it three times. Age of the patients at the time of the procedure ranged between 60 years to 81 years old. 60% were female versus 40% male. Most common indications for the CTC were failed endoscopy in 56%, patients with multiple comorbidities 15% and patient preference in 7% of cases.

Colonic pathology was reported in 68% (149) of the cases, extra-colonic in 21% (47) and no pathology identified in 10% (21) of the cases. Colonic pathology included colonic masses, polyps, stricture and diverticular disease. Important extra-colonic findings reported included metastatic disease, abdominal aortic aneurysm, fatty liver, renal and liver cysts.

Only 61(28%) cases had a post CTC endoscopy within maximally 1 year interval. Most were sigmoidoscopy 41(67%), followed by colonoscopy 14 (23%). Deep sedation was required for 5 cases (8%); 3 were colonoscopy and 2 were sigmoidoscopy.

15 (7%) cases were reported by CTC as suggestive of colonic mass. Only 9 had a post CTC endoscopy; of which only 2 were found to have colonic mass. Colonic polyps and diverticular disease was found in 3 cases and no pathology identified in the remaining 3.

51 (23%) cases were reported by CTC to have colonic polyps 41 had post CTC endoscopy of which 31 (76%) were found to have polyps and polypectomy performed. One case (2%) was found to have colonic mass. 5 (12%) had only diverticular disease and one with telangiectasia and in 3 (7%) cases no pathology was identified.

Abstract OWE-24 Figure 1 Post CTC endoscopy