Results In total 289 VOCs were found. The median number of VOCs identified per sample was 85 (3–18). Esters formed the largest group of compounds identified (n=82) with a mean of 17 (–3) esters per sample.

Three compounds were identified in all participants; Butanoic acid, 2-phenylacetaldehyde and 1H-indole. Thirteen compounds were present in > 90% of samples, 11 were present in >80% and a further 9 were seen in > 70%. This included; 10 aldehydes, 7 acids, 7 ketones, 4 benzenoids, 4 alicyclic compounds, 2 alcohols, 1 alkane and 1 alkene. Of these, 1 compound has previously been identified only in saliva; (1R,2R,4S)-1-ethenyl-1-methyl-2,4-bis(prop-1-en-2-yl)cyclohexane: it was found in 76 faecal samples.

Conclusion We the “core” compounds VOC profile of healthy^{4,5} have amalgamated data from different laboratories, using different techniques, sample handling and spectral analyses. comprehensive list of VOCs from a large set of donors which all underwent the same analysis in one lab.

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PWE-051 THE ASSOCIATION OF TOLL-LIKE RECEPTOR (TLR) PATHWAY POLYMORPHISMS AND COLORECTAL CANCER RISK: A META-ANALYSIS

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Introduction Colorectal cancer (CRC) is the third commonest cancer worldwide. Approximately 35% of CRC risk is due to heritable factors but only 5% attributed to known syndromes. Single Nucleotide Polymorphisms (SNPs) are common, low penetrance gene variants that may contribute to the remaining heritable risk. The toll-like receptor (TLR) signalling pathway is a key mediator of inflammation and has unique roles in the gut due to the presence of commensal microbiota. It is also suggested to have a significant role in colorectal carcinogenesis. This systematic review and meta-analysis aims to investigate the association of polymorphisms in the TLR signalling pathway with CRC.

Methods A systematic literature review of Pubmed, Ovid MEDLINE and HuGENet databases was conducted. Specific inclusion and exclusion criteria were used to select relevant papers. A per-allele, pooled odds ratio was used to assess the risk of each variant. Heterogeneity was investigated using Cochrane's Q test and I². Publication bias was assessed through funnel plot asymmetry. Statistical analysis was conducted using the Metafor package in R.

Results Sixty-seven SNPs were identified in published literature in 14 TLR pathway genes associated with CRC risk, of which 12 SNPs in five genes were eligible for meta-analysis. Two SNPs showed a significant association with CRC risk: *TLR4* rs7873784 (Odds ratio = 1.356, p=0.011, 95% C.I. 1.0–.71) and *TLR4* rs5030728 (Odds ratio = 0.916, p=0.025, 95% C. I. 0.8–.99). Funnel plots demonstrated no evidence of publication bias.

Conclusions The TLR pathway is a potential target for CRC therapy and risk assessment. This study identifies two SNPs in the *TLR4* gene associated with CRC risk. In order that conclusions might be made about the role of this pathway in colorectal carcinogenesis, adequately powered studies of greatly increased population size must be conducted.

PWE-052 COLORECTAL NEOPLASIA IN SIERRA LEONE – WE WILL ONLY FIND IF WE LOOK

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Background There has been an historical assertion that adenomatous polyps and colorectal cancer are rare in Africa, and particularly sub Saharan Africa. The reasons have been felt to be due to the African diet being ‘protective’(1). More recently, this view has been questioned as various publications have reported finding of adenomas and carcinomas (2). An explanation put forward is that there has been a ‘westernisation’ of the African lifestyle and diet. However there may be a more obvious reason – facilities and access to endoscopic evaluations have been poor and therefore, patients have not had access to these, so are not diagnosed.

Methods Since 2016, a group of gastroenterologists from Trusts in Northeast UK (all UK certified bowel cancer screeners) have visited Freetown annually to train doctors to perform gastroscopy. Prior to this there were no formalised endoscopy services in the country.

The local partners suggested that bowel cancer screening could be offered to individuals for a fee on 2 days of each UK team visit if they wished to have this performed. Fees were used to raise funds towards continuing the training project. Patients were identified prior to the UK team arriving, and information leaflets on the procedure and low residue diet were sent by email. Procedures were performed at Choi-thram Memorial Hospital.

Results 12 patients attended for colonoscopy. Only one of these was a screening procedure, with 11 presenting with lower GI symptoms. 8 were male. Colorectal neoplasia was detected in 7 cases (58%). Table 1 shows details of patients in whom adenomas or cancers were detected.

Abstract PWE-052 Table 1

Age	Gender	Symptom	Lesion	Site
45	F	PR bleed	adenoma	HF
66	M	Anaemia; Abdo pain	adenoma	1 x SC; 1 X DC
56	M	PR bleed; Abdo pain	adenoma	AC
71	M	Asymptomatic screening	adenoma	SC
68	M	PR bleed	cancer	SC
52	F	Anaemia; abdo. pain	cancer	Transverse
78	F	PR bleed; anal pain	cancer	Rectum

HF-hepatic flexure; SC – sigmoid colon; DC- descending colon; AC- ascending colon

Conclusion This small series further adds to the increasing literature suggesting that colorectal neoplasia is not a rare

condition in sub Saharan Africa. Addressing the westernisation of the population (in lifestyle and diet) may not be as important as the provision of diagnostic facilities. The burden of colorectal neoplasia is likely to be much higher than currently reported, and more work on incidence and prevalence of these conditions could support further development of endoscopic services in Africa.

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PWE-053 META-ANALYSIS OF TUMOUR MICROSATELLITE-INSTABILITY, AS A PREDICTOR OF RESPONSE TO FLUOROURACIL-BASED ADJUVANT CHEMOTHERAPY FOR COLON CANCER

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Introduction Controversy remain on the use of 5-FU-based regimens in treating microsatellite instability-related colorectal cancer, particularly in relation to the effect of patient's age and of combining 5-FU with other drugs. The aim of this study was to carry out a meta-analysis of current literature to investigate the relationship between tumour microsatellite status and response to 5-FU based adjuvant chemotherapy including patient stratification by staging.

Methods A systematic literature review of PubMed was conducted. Studies were included/excluded based on pre-specified criteria. CRC with low MSI (MSI-L) were clustered together with MSS CRC. Overall survival at 5 years was estimated from Kaplan-Meier curves. Publication bias was investigated using funnel plots and Egger's test. Statistical analyses were conducted using the R program (version 3.2.4).

Results Out of a total of 1807 studies identified in the PubMed database until December 2018, 326 were reviews or were not written in English and were excluded. Of the 1481 remaining studies, 17 fulfilled the screening criteria. Eight were excluded because they did not include overall survival data at 5 years. Nine studies were therefore used for the meta-analysis. The quality of all studies was considered fair according to pre-defined criteria and Egger's test revealed no publication bias. There was however considerable variation between studies in terms of study design, tumour site, tumour staging, and molecular techniques used for the identification of MSI. According to the meta-analysis result 5-FU treated individuals who died at 5 years were 0.69 times more likely to have MSI than those who were alive, but this did not reach statistical significance. There were no sufficient studies to carry out subgroup analysis by stage.

Conclusions Meta-analysis based on data extracted from published literature is marred by the heterogeneity and/or paucity of clinical, pathological and molecular data in published studies. Similarly to two previous meta-analysis studies there was no significant difference in the overall survival of patients with MSI-H and MSS/MSI-L CRC treated with adjuvant 5-FU. More studies are necessary to clarify whether patients with MSI-H CRC, and in particular those at a relatively early stage, should be offered 5-FU based adjuvant chemotherapy.

PWE-054 ENDOSCOPIC INTERVENTIONS AVERT PERMANENT END OSTOMY IN HIGH-RISK FOR ADVERSE OUTCOME(HRAO) PATIENTS

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Introduction Anastomotic stenosis, fistulas or leaks distal to the loop ostomy either require a complex redo pelvic surgery or a potential conversion to end ostomy, both of which are associated with significant morbidity or mortality. Our aim was to assess minimally invasive endoscopic approaches as primary or rescue intervention in high-risk for adverse outcome (HRAO) patients who were otherwise destined to a permanent end ostomy.

Method All ostomy patients with endoscopic stent placement between May 2012 and July 2018 were included. Relevant demographic and clinical data were abstracted from the electronic medical record. Data was presented using descriptive methods.

Results A total of 12 (mean age 47.9y; 70% male) HRAO patients underwent minimally invasive endoscopic interventions: Eight patients had stenosis (66%), 2 patients had leak/fistula and 2 patients had stenosis as well as a fistula. The ostomy was performed for IBD in 6 (50%) patients, colorectal carcinoma in two, diverticulitis in two, rectal prolapse in one and recurrent sigmoid volvulus in one patient. Majority of the patients had ileostomy except one with colostomy and another with Altemeier procedure. 42% patients were on steroids, 58.3% were on immunosuppressants and 25% patients were smokers. 50% of the procedures were rescue interventions after reversal. Axios stents were used in 66% and Viabil in 34%. Stent diameter ranged from –5 mm and length from –0 mm. Two patients required a rendezvous antegrade-retrograde procedure. Adjunct therapies such as endoscopic suturing, transanal drainage, biocompatible plugs or biodegradable plugs were used in 33.3% of patients. On follow up, 10 patients (83%) had durable endoscopic response without the need for further interventions but two required surgery including one with permanent end ostomy. Both failures were in the patients who had strictures complicated by fistulas. One patient acutely presented with stent obstruction. In four patients stents spontaneously migrated without residual symptoms and in five, stents were removed after symptom resolution. One patient still has stent in place 8 months after endoscopic stent placement.

Conclusion Minimally invasive endoscopic management in high-risk for adverse outcome (HRAO) patients who were otherwise destined to a permanent end ostomy is a safe & effective management option. A consideration should be given to endoscopic intervention as it has potential to avert redo surgery or permanent end ostomy.

PWE-055 IRON SUPPLEMENTATION, MICROBIOME RELATED METHANOGENESIS AND CONSTIPATION – NOVEL MODEL TO EXPLAIN AN AGE-OLD PROBLEM

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