only, 3 diverticulitis, 4 diverticular stricture/fibrosis, 3 ischaemia + diverticulosis, 24 colorectal cancer + diverticulosis, 3 Crohn's disease + diverticulosis, 1 prolapse + diverticulosis, 1 ovarian cancer + diverticulosis). 4 were excluded because no drug history was available. The age range in the complicated diverticulitis group was 26 to 89 years with a mean age of 62 years with a male to female ratio of 23:28. The age range in the uncomplicated group was 46 to 89 years with a mean age of 72 years with a male to female ratio of 6:9.

In the complicated diverticulitis disease group, 6 patients (12%) were on nicorandil therapy, compared to 0 in the other group, a significant difference (p = 0.019, Fisher's exact Test). The use of nicorandil was not stated on any of the pathology request forms. It was raised as a possible contributing factor in only one pathology report.

Conclusion We have shown that there is an association between nicorandil use and complicated diverticulitis. In addition, we have also demonstrated that nicorandil-associated perforation, fistulation and abscess formation in diverticular disease is under reported.

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Disclosure of Interest None Declared.

PWE-007 THE INCIDENCE OF VENOUS THROMBOEMBOLISM IN THE BOWEL CANCER SCREENING PROGRAMME

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Introduction The Department of Health has published guidance stating that the development of venous thromboembolism (VTE) within 90 days of a Hospital event is a notifiable condition.[1] We have previously identified an increased risk of VTE[2] in patients attending for endoscopic procedures although this was confined to those with predisposing factors including malignancy. This study examined the incidence of VTE in patients with positive faecal occult blood tests attending for bowel cancer screening colonoscopy.

Methods Patients who participated in the bowel cancer screening programme in East Kent (BCSP) over a four year period from May 2009 to the end of April 2013 were included. Data was gathered from the 'Exeter' electronic database and cross referenced to the electronic radiology reporting system (PACS), to identify those patients with a history of VTE prior to, or within 90 days of colonoscopy (by Doppler Ultrasound, VQ scanning or Computerised Tomography of the Pulmonary Arteries – CTPA), a diagnosis of colon cancer made at colonoscopy; whether patients had been admitted for their procedures or had undergone surgery after the diagnosis.

Results Over the 4 year study period, 2296 patients attended for colonoscopy (F: 912; M: 1384, mean age 65.5 years). 203 patients (8.8%) were diagnosed with colorectal cancer (CRC). There were 10 cases of VTE post colonoscopy (CRC : 8; normal result : 2). In the 8 cases diagnosed with CRC and VTE, only 2 were diagnosed within 90 days post procedure (F: 2; at 21 days – bilateral PE's and 49 days – bilateral DVT's). They had not undergone surgery. Of the 2 patients with a normal colonoscopy result and VTE, none were diagnosed within 90 days post procedure. None of the VTE patients had a previous history of thrombosis or had been admitted for bowel preparation.

Conclusion The incidence of VTE in patients attending for colonoscopy in the BCSP is low, even in those patients diagnosed to have colorectal cancer.

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PWE-008 A NOVEL SAMPLING DEVICE FOR COLLECTING MUCOCELLULAR MATERIAL FROM THE RECTUM

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Introduction Earlier detection of colorectal and other gastrointestinal malignancies is an urgent objective. Currently much effort is directed at the development of *in vitro* diagnostic tests that evaluate informative protein or DNA biomarkers in stool or blood samples. Stool samples are inconvenient to collect, require special handling facilities, and suffer from contamination that may interfere with molecular assays. Blood samples, while more convenient, may not be as informative early in the disease process. Several studies have shown that significant numbers of exfoliated cells and their products are retained in a muco-cellular layer overlying the colonic mucosa but distinct from the stool itself, and that this material flows toward the rectum, where it can be captured for analysis.

Methods Origin Sciences has developed a novel sampling device, which incorporates an inflatable nitrile membrane. Following insertion into the unprepared rectum via a standard proctoscope, the membrane is inflated to make contact with the rectal mucosa for 10 seconds. The membrane is then deflated and retracted into the device prior to removal from the patient. Upon retraction the material sampled from the rectal mucosa is retained on the inverted membrane, which acts as a receptacle for the addition of buffer to preserve the material for subsequent analysis.

Results The sampler has been tested in over 2000 patients and healthy volunteers, and has shown excellent patient acceptability. Tests and *in vitro* experiments with monolayers of cultured human cells indicate that the membrane captures intact cells, which are easily washed off the membrane for further investigation. Mucous-associated soluble material captured by the device is rich in protein and nucleic acids. Levels of soluble protein present in the buffer varied between 90 and 3000 µg/mL, with a mean of 710 µg/mL. As part of a programme to identify novel cancer biomarkers, Origin Sciences has detected informative auto-antibody isotypes IgA, IgG and IgM by ELISA. The same preparation is also rich in nucleic acids; DNA has been found in amounts ranging from 0.5 to 21.9 ug/mL. This DNA is suitable for amplification and sequencing, since we have been able to detect a number of genes by quantitative PCR.

Conclusion The sampling device represents a novel and minimally invasive means of capturing biomarker-rich material from the unprepared rectum. Since there is minimal contamination by

stool, the material collected is readily analysable, in principle lending itself to point-of-care tests for a wide range of indications, including infectious and inflammatory diseases of the GI tract in addition to malignancy. The device can be used as a robust means of collecting material for later analysis by a wide range of technologies.

Disclosure of Interest None Declared.

PWE-009 MEASUREMENT OF COLONIC POLYPS. IS VISUAL ESTIMATION ACCURATE?

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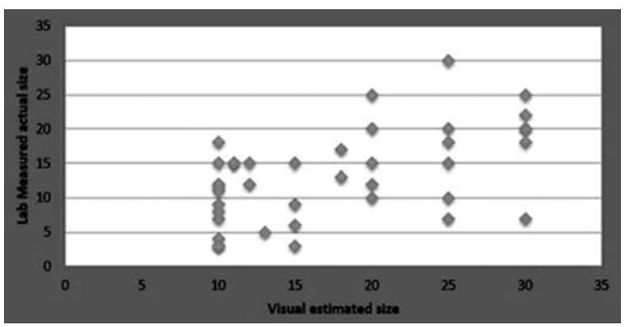
Introduction Colon polyp size is a critical biomarker for clinical management of colonic polyps. Larger polyps have a greater malignant potential. During colonoscopy, it is important to correctly measure the size of the polyps because of the direct correlation of size with colon cancer.[1] During polypectomy, size of the colonic polyps encountered are often gauged by visual estimation or the open forceps method.[2] However, some data exists on the questionable reliability of a visual estimate even amongst expert colonoscopists. We aim to compare the estimation of polyp size using the visual estimation of colon polyp with or without the open biopsy forceps technique against actual polyp size measurement by our histopathology department for all polyps >1 cm in size.

Methods A single centre, retrospective analysis using the Unisoft GI auditors software was used to identify patients who have had polypectomies done for polyps >1 cm in size from October 2005 till September 2013. The size of the polyps documented in the endoscopy report was then compared to the lab measured actual polyp size.

Results A total of 39 patients were identified with polyps >1 cm in size who has had polypectomy done. Results are as below:

Conclusion From this study we can conclude that visual estimation with or without the open biopsy forceps technique is completely inaccurate with wide variations between the reported size and the actual size of the polyps when measured in our laboratory. Accurate measurement of colonic polyps is important as inaccuracies can lead to potentially larger polyps not being tattooed and subsequent difficulty in identification during surgery and surveillance. We advocate that the 'gold standard' practice of direct measurement of the polyp once excised and outside the body be adopted and the actual size should be documented according to direct measurement.



Abstract PWE-009 Figure 1

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Disclosure of Interest None Declared.

PWE-010 THE ASSOCIATION OF TGFB SIGNALLING PATHWAY GENE POLYMORPHISMS WITH COLORECTAL CANCER RISK: A META-ANALYSIS

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Introduction Background

Approximately 35% of colorectal cancer risk is due to heritable factors. To date, a large fraction of this heritability remains unexplained. The TGFß signalling pathway has an increasingly implicated role in colorectal carcinogenesis, with highly penetrant-germline mutations of *BMPR1A*, *SMAD4* and *GREM1* causing known polyposis syndromes. We propose that common, low penetrance variation of TGFß signalling genes may account for much of the unexplained heritability of colorectal cancer, underlining the importance of this signalling pathway in the aetiology of colorectal cancer.

Aim A meta-analysis of the association of TGFß signalling pathway gene single nucleotide polymorphisms (SNP) with low penetrance colorectal cancer risk.

Methods A systematic literature search of Medline and Embase was performed. Data was extracted from eligible studies, according to pre-specified criteria. RevMan software, version 5.2, was used to generate pooled odds ratios (OR) to estimate the risk attributed to each variant. In addition to this, subgroup analyses for ethnicity, gender and tumour site were performed to investigate these as sources of heterogeneity.

Results Between 9,854 and 27,641 cases were meta-analysed for each SNP. Of the 10 SNPs discovered in a review of the literature, 8 were significantly associated with an increased risk of colorectal cancer in this study. These SNPs were located within *BMP4*, *GREM1*, *CDH1*, *SMAD7*, *RHPN2* and *BMP2*, the largest effect was for rs10411210 within *RHPN2* (OR=1.15; 95% CI 1.09- 1.22, I^2 50%). Subgroup analyses revealed gender as a possible source of heterogeneity, but no preferential associations for any of the SNPs with tumour site or ethnicity were detected. However determination of inconsistency between studies, i.e. I^2 of <50% for 8 of 10 SNPs, indicated that overall study heterogeneity was not a common source of bias.

Conclusion Discussion: Whilst 8 out of 10 variants showed significant association, the estimates of risk were small with all OR <1.15. This may result from suboptimal methods of estimating risk, as well as unknown disease heterogeneity. This process is constrained by a lack of knowledge of the true risk alleles tagged by the SNPs studied.

Conclusions The results of this analysis underline the integral role of the TGFß signalling pathway in colorectal carcinogenesis. Knowledge of the function of tagged risk alleles is required to elucidate and accurately estimate the risk attributed to polymorphisms in this pathway.

Keywords: colorectal cancer, TGFβ signalling, low penetrance

Disclosure of Interest None Declared.