

**Methods** We performed a retrospective analysis of all patients undergoing CT imaging of the large bowel, both CT colonography or plain abdominal CT (if CT colonography was not possible) at one south London hospital in a 13 month period between 2012–2013. Any extracolonic findings were determined either significant, where requiring further investigation or treatment, or insignificant by the reviewer. Any subsequent outcome of the significant findings was also sought.

**Results** A total of 257 scans were reviewed comprising of 250 (97%) CT colonography and 7 (3%) plain abdominal CTs in 104 (40%) male and 153 (60%) female patients. The average age was 68 years (range 39–91). A total of 163 (63%) of scans detected at least one extracolonic finding, with 55 (21%) of these significant. Sites included 13 liver, 7 lung, 6 pancreatic, 5 renal and 5 adrenal. Further investigation based on these findings revealed 5 (1.9%) malignancies. One patient was found to have a renal cell carcinoma and went on to have curative surgery. One patient was diagnosed with pancreatic cancer and one with hepatocellular carcinoma, both of which were managed palliatively, and one patient was found to have peritoneal recurrence of a previously treated colonic adenocarcinoma. One scan discovered lung and liver metastases along with the causative colonic primary. Other notable findings included a 5.3cm AAA and a pulmonary embolus seen in a segmental lower lobe pulmonary artery. There were a 209 insignificant findings in 139 (54%) of the CTs, with a maximum of 5 in a single scan.

**Conclusion** This study helps to highlight the potential additional benefit of CT colonography over endoscopic visualisation of the large bowel. The prevalence of extracolonic findings in this cohort was high, in keeping with previous studies, with CT colonography having value in its detection of extracolonic malignancies, staging and other serious conditions. However there was also a substantial rate of additional investigation for subsequently benign findings.

#### REFERENCES

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**Disclosure of Interest** None Declared.

#### PWE-005 MANAGEMENT OF HIGH RISK COLONIC POLYPS

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**Introduction** Colorectal cancer is a significant health problem, the importance of which will increase substantially in the coming years. Demand for colonoscopy will increase and so will demand for complex polypectomy to deliver a reduction in incident rates.

**Methods** Colonoscopy reports with an endoscopic diagnosis “high risk colonic polyp” were examined over a 6 month period. Histology was reviewed to determine the precise histological classification of all polyps. Repeat procedures over the following 2 years were reviewed for completeness of initial resection. Complete adenoma clearance rates were calculated based on observation of residual polyps or residual polyp tissue at previous polypectomy site.

**Results** Twenty one colonoscopists performed 2139 colonoscopies. The median caecal intubation rate was 93%. The number of procedures performed by individual endoscopists varied between 14–464. The median was 64 procedures. In 564 (24%) cases,

one or more than one polyp were identified. Individual endoscopist adenoma detection rates (ADR) did vary. The median ADR was 24% (0–44%). In 79 cases the endoscopic diagnosis was reported as “high risk”. When the initial reports were analysed with histology, 52 (69 %) cases met BSG high-risk criteria. Of the 52 high-risk polyp cases, histology confirmed adenocarcinoma in 10 cases. Surgery was performed for 5 benign cases. Of the 44 benign lesions managed endoscopically, 35 (80%) patients were recommended to undergo a repeat procedure (s). In total 24 patients underwent one repeat procedure, 8 underwent 2 repeat procedures and 3 patients underwent 3 repeat procedures over the follow up period.

Complete adenoma clearance rate at index endoscopy in this audit was achieved in 11 (31%) cases. Two further cases were regarded as having complete clearance following a subsequent resection.

**Conclusion** The finding of multiple or complex polyps puts pressure on colonoscopists. Difficult procedures may adversely affect ADR. Although key performance indicators such as caecal intubation rate have improved with national training programmes, this audit and other studies have demonstrated variation in therapeutic outcomes.<sup>1</sup> Scoring systems for complex polypectomy should be employed to encourage endoscopists to defer polypectomy in some situations.<sup>2</sup> Designated therapeutic lists will benefit patients and endoscopy units with reduction in repeated procedures and improved mentoring/training opportunities in complex polypectomy.

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**Disclosure of Interest** None Declared.

#### PWE-006 NICORANDIL USAGE IS ASSOCIATED WITH COMPLICATED DIVERTICULITIS

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**Introduction** Nicorandil is widely used in the treatment of ischaemic heart disease, but over the last ten years there has been a growing body of literature reporting the association between nicorandil and ulceration of the gastrointestinal tract. In the setting of diverticulosis/diverticulitis, any superimposed ulceration may lead to significant complications, but data on whether or not nicorandil contributes to this is scanty and limited to one study which only investigated intestinal fistulae.<sup>1</sup> Our aim is to identify if any potential association between all forms of complicated diverticulitis and nicorandil exists.

**Methods** We reviewed 100 reports of colonic resections with diverticular disease received in a single institution over a 6 month period (from June 2013 to January 2014) and divided them into those with complicated diverticulitis (defined as active diverticulitis in combination with perforation, fistulation, abscess formation or structuring)<sup>2</sup> and those with uncomplicated diverticulitis or uninfamed diverticulosis. The age, sex, surgical indication and use of nicorandil were recorded for both groups.

**Results** 51 patients had complicated diverticulitis and 45 had uncomplicated diverticulitis or diverticular disease (7 diverticulosis

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.<sup>1</sup> We have previously identified an increased risk of VTE<sup>2</sup> 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.

#### REFERENCES

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**Disclosure of Interest** None Declared.

#### 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 mucocellular 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 µg/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