

On this basis, the locations of the bowel cancers were found to be 19 in the right colon and 68 in the left.

We attempted to correlate clinical findings with site of tumours. It was observed that anaemia was more commonly associated with a right colonic lesion as compared to PR Bleeding which was seen with a left sided pathology.

Abdominal pain and change in bowel habit were not strongly associated with any particular location for a tumour.

**Conclusion** Our audit data of colon cancers from a community based setting is one of the few to be published in recent years.

We have shown an incidence of about 2% of colon cancers from this setting.

There appears to be a definite association between PR bleeding and left colon tumours as compared to anaemia which appeared to be associated with right colonic lesions.

The overwhelming majority of cases referred to us were lesions located in the left colon suggesting that one-off flexible sigmoidoscopy as a tool for bowel cancer screening should have a very good diagnostic yield.

**Disclosure of Interest** None Declared.

### PWE-031 HOW MANY COLORECTAL CANCERS (CRC) HAVE BEEN MISSED IN THE 36 MONTHS AFTER 'NORMAL' LOWER GI ENDOSCOPY (COLONOSCOPY/FLEXIBLE SIGMOIDOSCOPY)

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**Introduction** Colonoscopy and flexible sigmoidoscopy are the primary tools for diagnosis of CRC, although they have false negative rates of 2–6%.<sup>1</sup> The aim of this study was to estimate how frequently lower GI endoscopy might have failed to detect cancer within 36 months preceding a confirmed diagnosis of CRC.

**Methods** We identified 253 patients diagnosed with CRC between Sep 2010 – Aug 2012 from the database of cellular pathology in Cardiff and Vale University Health Board. Medical records were reviewed for the results of colonoscopy, flexible sigmoidoscopy, histology and CT imaging. Patients with missed cancer were those who had had a 'normal' (if no cancer discovered) lower GI endoscopy procedure 1–36 months before diagnosis. We examined the characteristics that might be risk factors for missed CRC.

**Results** Among the 253 patients included in the study, cancer was located in the rectosigmoid colon (78.5%), descending colon (2.7%), splenic flexure (1.9%), transverse colon (4.3%), hepatic flexure (1.1%) and right colon (9.4%). We identified 10 (5 females, 5 males, mean age 80 years, range 42–92) patients (3.9%) who had had colonoscopy and/or flexible sigmoidoscopy that had not shown CRC 1–36 months prior to the final diagnosis. In the missed cancer group only one flexible sigmoidoscopy was incomplete due to suboptimal bowel preparation and difficult sigmoid bend. Nine patients had false negative lower GI endoscopy. The median diagnostic delay was 13.6 months (1–36). Two of the missed cancers were diagnosed with Dukes' C colon cancer, one with Dukes' D colon cancer and one presented with emergency complications due perforation. Of the ten missed cancers, eight were in rectosigmoid colon, one in the transverse colon and one in the ascending colon.

**Conclusion** Bressler *et al* reported 2–6% missed CRC at colonoscopy performed 6–36 months prior to a final diagnosis of cancer.<sup>1</sup> Our miss rates are in line with previous studies. However, the available literature suggests that lesion miss rate is higher for proximal colonic tumours. In our study, the missed cancers were predominantly in the rectosigmoid colon (3.1%) and were minimal in the right colon (0.4%). The reasons for missed cancers in our study are likely related to incomplete procedure, suboptimal bowel preparation, inadequate

technique, failure to recognise flat lesions and diverticulosis. Optimal withdrawal technique, good luminal view, frequent position change, high quality bowel prep and adequate time for inspection are of utmost importance to minimise the rate of missed CRC.

**Disclosure of Interest** None Declared.

### REFERENCE

1. Bressler B, *et al*. Rates of new or missed colorectal cancer after colonoscopy and their risk factors: a population-based study. *Gastroenterology* 2007; 132(1):96–102

### PWE-032 WHAT IS THE IMPACT OF THE INTRODUCTION OF THE NHS BOWEL CANCER SCREENING PROGRAMME ON THE WORKLOAD OF A COLORECTAL SURGERY UNIT AT A DISTRICT GENERAL HOSPITAL?

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**Introduction** A study to assess the impact of the introduction of the National Bowel Cancer Screening Programme (BCSP) on the workload of a colorectal unit in a medium-size general hospital covering a population of 400,000, and to compare it to the initially projected figures.

**Methods** We used the BCSP database, hospital episode statistics and the locally held colorectal cancer Multi-Disciplinary Team (MDT) database to identify all patients with newly diagnosed colorectal cancer diagnosis between April 2007 and November 2012. Demographic data, pathological data, MDT outcomes and treatment details were examined.

**Results** During the study period of 66 months, a total of 194 patients with screening-detected colorectal cancer were referred to the local MDT (mean 32 cases per annum). Of these, 144 patients had a cancer resection (74.2%, mean 24 cases per annum). The remaining 50 cases included unfit patients as well as those with metastatic disease at presentation and patients with polyp cancers not requiring resection. Furthermore, there was an increase in numbers seen from 2010 onwards, coinciding with the increase in the screening age limit to 75 years.

**Conclusion** This study measures the effect of the national BCSP on the surgical workload and quantifies the proportion of patients requiring surgery. It was projected that 33 people per annum newly diagnosed with colorectal cancer would be referred from the BCSP centre to the local MDT<sup>1</sup>; this study confirms this projection.

**Disclosure of Interest** None Declared.

### REFERENCE

1. BCSP Publication No. 3 (2008): Guidance for public health and commissioners.

## Endoscopy

### PWE-033 THE INCIDENCE AND COST OF UNEXPECTED HOSPITAL ATTENDANCE FOLLOWING ELECTIVE OUTPATIENT FLEXIBLE SIGMOIDOSCOPY

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**Introduction** Outpatient flexible sigmoidoscopy is an increasingly utilised investigation shown to be effective in the detection and prevention of bowel cancer. The procedure is thought to entail a low risk of complications. However, recent literature suggests the complication rate of other endoscopic procedures may be up to 10 fold

that traditionally quoted (1). The true complication rate of flexible sigmoidoscopy is of particular importance as the UK is introducing the Bowel Cancer Screening Programme (BCSP) by which all citizens will be offered the procedure at age 55.

**Methods** The aim of this study was to identify the morbidity and related healthcare costs of unexpected hospital attendance following outpatient flexible sigmoidoscopy. An observational study of A&E attendances and admissions occurring within 14 days of all outpatient flexible sigmoidoscopies which took place in 2011 was conducted. All procedures took place at West Middlesex University Hospital, London. Data was collected using the hospital's electronic records system, enterpriseCAMIS®. Cases were analysed to assess whether reattendance could be attributed to the procedure, and healthcare costs were determined.

**Results** Of the 1137 outpatient flexible sigmoidoscopies performed, 18 patients (1.58%) presented to A&E within 14 days. Only 2 of these attendances were thought to be related to the procedure (0.18%). 1 case resulted in a 5 day admission due to bleeding post polypectomy. The second A&E attendance was also due to bleeding. The cost of the above admission was £4,682. Including the related A&E attendance, the total financial burden of related reattendance following flexible sigmoidoscopy was approximately £4,827 in 2011. This equates to an additional cost of £4.25 per procedure.

Cost of hospital attendance within 14 days of outpatient flexible sigmoidoscopy (WUMH 2011, n = 1137):

#### Abstract PWE-033 Table

	Total A&E Attendances	A&E Attendances Related to procedure	Admissions Related to procedure	All episodes related to procedure
Number	18	1	1	2
Average Cost Per Attendance	£145	£145	£4,682	£2,413.50
Total Cost	£2,610	£145	£4,682	£4,827

**Conclusion** This study suggests outpatient sigmoidoscopy is relatively safe, with complications necessitating reattendance occurring following 0.18% procedures. The financial burden of hospital reattendance within our UK based study population was minimal, supporting the cost effectiveness of extending services for National bowel cancer screening programmes.

**Disclosure of Interest** None Declared.

#### REFERENCE

1. Leffler D A, Kheraj R, MD; Garud S, Neeman N, Larry A, Nathanson A, Kelly C P, Sawhney M, Landon B, Doyle R, Rosenberg S, Aronson M; The Incidence and Cost of Unexpected Hospital Use After Scheduled Outpatient Endoscopy, *Arch Intern Med.* 2010 Oct 25; 170(19):1752–7

#### PWE-034 DIAGNOSTIC YIELD AND SAFETY OF 'BITE ON BITE' TUNNELLED BIOPSY FOR SAMPLING OF UPPER GASTRO-INTESTINAL SUBMUCOSAL LESIONS

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**Introduction** Submucosal lesions are detected incidentally in a small proportion of diagnostic upper gastro-intestinal endoscopies. Endoscopic ultrasound guided fine needle aspiration (EUS-FNA) and endoscopic submucosal resection (ESMR) are useful diagnostic investigations for the assessment of such submucosal lesions with studies reporting diagnostic yields of 42% - 92% and 87% respectively.<sup>1,2,3</sup> However, access to these techniques is usually limited to

specialist centres and they can have complications, with bleeding rates for ESMR ranging from 0–24%.<sup>3</sup> The diagnostic yield with standard sized biopsy forceps is recognised as very low when assessing submucosal lesions.<sup>3</sup> However, there is some evidence that this diagnostic yield might be increased to 17–38% by using a repeated “bite on bite” technique with larger capacity forceps.<sup>3</sup>

**Methods** We evaluated the diagnostic yield and safety of “bite on bite” tunnelled biopsy in diagnosing submucosal lesions found on upper gastro-intestinal endoscopy.

Data from 30 patients who underwent tunnelled biopsy was prospectively collected over an 18 month period. The acquisition of tissue required repeated biopsies consisting of 6 bites from the same point using a biopsy forceps with an open jaw diameter of 7mm (Radial jaw 4 large capacity, Boston Scientific).

**Results** 30 patients were included; (18 male, median age 60 years: range 31–79). The diagnostic yield on tunnelled biopsy was 7/30 (23.33%). Positive sample sites were: 4/12 oesophageal (1 mycobacterium tuberculosis, 3 leiomyomas), 0/13 gastric, 3/5 duodenal (1 pancreatic tissue, 2 endocrine carcinomas). No sampling led to bleeding requiring additional therapy to gain haemostasis. No patient required readmission with complications related to tunnelled biopsy within 30 days of their procedure.

**Conclusion** The tunnelled ‘bite on bite’ biopsy technique produced a low positive diagnostic yield of 23.33% when compared to EUS-FNA and ESMR. However, there were no complications with this method. Despite its low yield, tunnelled biopsy could still be considered as an initial diagnostic method for investigating incidental submucosal lesions as it is inexpensive to perform, safe and universally available.

**Disclosure of Interest** None Declared.

#### REFERENCES

1. Hunt G, Smith P, Faigel D. Yield of tissue sampling for submucosal lesions evaluated by EUS. *Gast. Int. Endosc* 2003; 57(1):68–72.
2. Jessen C, Dietrich C Endoscopic ultrasound –guided fine needle aspiration biopsy and trucut biopsy in gastroenterology – An overview. *Best Practice & Research, Clin Gast.* 2009; 25(5):743–59.
3. Cantor M, Davila R, Faigel D. Yield of tissue sampling for submucosal lesions evaluated by EUS: comparison between forceps biopsies and endoscopic mucosal resection. *Gast. Int. Endosc.* 2006;64(1): 29–34.

#### PWE-035 THE INTRODUCTION OF A WEEKLY GENERAL ANAESTHETIC ERCP LIST IMPROVES DESIRED DUCT CANNULATION AND DUCT DRAINAGE RATES

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**Introduction** ERCP remains a key, but potentially complex endoscopic modality. ERCP procedures can be prolonged and consequently require higher dose and longer duration of conscious sedation. The use of anaesthetist-led deep sedation or general anaesthesia (GA) has been clearly demonstrated as a safe alternative to the use of conscious sedation<sup>1,2</sup>. However, the effect of general anaesthesia on the success of ERCP has not been well studied. The aim of this study was to examine the impact of the introduction of a weekly anaesthetist-led GA ERCP list on the successful completion of ERCP.

**Methods** The data for all ERCP procedures performed within our unit was retrieved from the local endoscopic database covering the period one year before (BGA) and one year after (AGA) introduction of a weekly GA ERCP list in January 2012. Data regarding selective cannulation rates, patient and endoscopist demographics and complications were analysed. Success at ERCP was defined as selective deep cannulation of the targeted duct and the successful drainage of obstructed systems when required.

**Results** A total of 713 ERCP cases were examined. ERCPs were performed by 3 experienced endoscopists within a single endoscopy