had a significantly lower CIR than patients who received 2 mg, with $P < 0.001$ in both comparisons.

Conclusion In this study we demonstrate that a standard (2 mg) dose of midazolam is associated with a significantly higher caecal intubation rate than lower doses. Following stratification of patients by adequacy of bowel preparation, CIR remained lower in the low dose midazolam group. Appropriate patient selection for standard dose midazolam is important to avoid respiratory and cardiovascular compromise. Further confirmatory prospective studies are warranted.

Disclosure of Interest None Declared.

PWE-043 POLYP DETECTION RATE AND ASSOCIATION WITH MIDAZOLAM DOSE

J Boyd*, C Harper, L Lee, T Chapman, S Lanzon-Miller. Milton Keynes NHS Foundation Trust, Milton Keynes, UK

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Introduction Midazolam is a short acting benzodiazepine that is commonly used for sedation during colonoscopy.

There is no standard dose of midazolam, however, British Society of Gastroenterology guidelines suggest a maximum of 5 mg with lower doses for elderly patients. Bowel preparation and endoscopist are factors that have been clearly associated with improved polyp detection during colonoscopy. Anecdotally, colonoscopy in patients who are extremely agitated limits views and leads to a more difficult procedure. Data exploring the relationship between midazolam dose and ability to detect colonic polyps is limited.

Methods A retrospective cohort study of all patients who had undergone colonoscopy at Milton Keynes General hospital between January 2010 and December 2012. Patients were identified from the Endoscopy Unit database and their records were reviewed. Patient details, midazolam dose and diagnosis on colonoscopy were extracted into a standardised form.

Results 6200 patients were included for analysis. The median age was 62 years and 49.4% were male. The mean midazolam dose was 1.9 mg. 16.2% of patients had a low dose of midazolam (<2 mg of midazolam), 74.5% a standard dose of midazolam (2 mg), and 9.3% a high dose (>2 mg). In the low dose cohort, the polyp detection rate (PDR) was 20.8%, in the standard dose, PDR was 26.9% and in the high dose PDR was 16.4%. Rates of agitation were significantly higher in patients who received higher doses of midazolam. When patients with poor bowel preparation were removed from the cohort ($n = 5534$), PDR was 21.4% in the low dose cohort vs. 27.1% in the standard dose.

Conclusion Adequate sedation of patients during endoscopy is important for patient comfort. In this study we demonstrate that a standard dose of midazolam is associated with a higher polyp detection rate than lower doses. Midazolam has been previously demonstrated to inhibit peristalsis in animal studies by preventing release of 5-HT and this is a probable mechanism for our findings. Limitations arise from the retrospective nature of this

study, however, even following stratification of patients by adequacy of bowel prep, PDR remained lower in the low dose midazolam group. Appropriate patient selection for standard dose midazolam is important to avoid respiratory and cardiovascular compromise. Further confirmatory prospective studies are warranted.

Disclosure of Interest None Declared.

PWE-044 OUTCOMES IN MASSIVE COLORECTAL EMR, WHAT SHOULD THE PATIENTS KNOW?

¹J Subhani*, ²G El-Sayed. ¹Gastroenterology, Basildon and Thurrock University Hospitals, Basildon, UK; ²UCH, London, UK

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Introduction Data from colorectal endoscopic mucosal resection (EMR) of lesions 6 cm and greater is scant. Endoscopists may welcome these lesions as challenges, but what is the longterm outcome and therefore what should patients be advised before consenting to these procedures?

Methods Prospective data has been collected for over 10 years by a single endoscopist (JMS) on his EMR practice and the database was interrogated for Colorectal resections of flat or sessile polyps, greater or equal to 6 cm. Data for size, Paris classification, assessment, completion in first session, histology, complications (early and late) follow-up duration, recurrence rates and clearance rates.

Results Of 629 lesions on the database, 154 were 40 mm or greater, and 54 lesions in 54 patients were 60 mm or greater.

At endoscopy (for the EMR) 5 lesions were clearly invasive cancer and resection was not attempted. Proceeded to resection in 49 lesions (29 LST-G, 13 Is/Isp, 5 Ila + Is, 2 Ila + Iib). 18 resections were stopped with 12 (24%) of these completed at subsequent session.

Complications included 1 perforation treated endoscopically (2%), 4 admissions post procedure (8%), no bleeds and 3 late strictures (6%).

Of the 49 resections, 19 had not had follow-up at the time of analysis. 5 were awaiting, 10 had been sent to surgery (3 for cancer, 6 benign lesions due to size/position/access, 1 by misinterpreted histology) 4 due to miscellaneous reasons.

30 had endoscopic follow-up, average duration 737 days and 27/30 > 1 year. Recurrence rates at 3 months were 39%, at 1 year were 27 and 80% were eventually endoscopically cleared. Of the 6 patients still not cleared; 2 had <5 mm recurrence at their last endoscopy, 2 >5 mm recurrence and all four of these are awaiting check endoscopy. The final two patients had surgery, one due to complications of a stricture, one due to failure to complete the resection.

Overall in these patients 16% had cancer, with most identified before attempted resection. 37 patients avoided surgery, 76% of those with attempted resections. However for 40% of patients this may require multiple endoscopies either for the initial resection or treatment of recurrences or complications. Sustained clearance may take as long as a year to achieve.

Conclusion Complications were surprisingly uncommon, although patients should be prepared to be admitted after there initial resection. Bleeds in particular were rare compared to 4.5% seen in lesions (in the database) 20–59 mm in size.

This data suggests in experienced hands tackling lesions greater or equal to 6cm endoscopically is worthwhile but patients should be aware that in up to 25% of cases surgery still occurs. If surgery is to be avoided multiple endoscopies maybe necessary for cure.

Abstract PWE-043 Table 1

Midazolam dose	Low dose	Standard dose	High dose
Number of patients	1004	4618	578
Patients with polyps	2008	1241	95
PDR	20.8%	26.9%	16.4%

Disclosure of Interest None Declared.

PWE-045 HAS COLONOSCOPY BECOME A TEST TO FIND INCIDENTALOMAS?

J George*, K Manoj. *Gastroenterology, Wrexham Maelor Hospital, Wrexham, UK*

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Introduction Demand for colonoscopy has risen over the years and many hospital trusts in the UK are struggling to cope with the demand. This causes many deserving patients waiting longer for the procedure resulting in increasing patient anxiety along with potential clinical risks of delayed diagnosis. We were interested in looking at the correlation between indications and findings at colonoscopy and to explore the possibility of refining the referral criteria to improve diagnostic yield and to reduce demand. We had a specific interest in rectal bleeding as a symptom.

Methods Colonoscopy data for 2013 was sought giving us a total of 2021 procedures which was retrospectively analysed by using the reporting software. This number was then filtered by indications for colonoscopy which included rectal bleeding with or without associated factors which left 378. We analysed all the pathology in particular that which was proximal to the splenic flexure and whether the findings showed a causal link to the indication.

Results There were 52 (13.8%) procedures among these which found pathology proximal to splenic flexure and therefore beyond the extent of examination of flexible sigmoidoscopy that can directly be linked to the symptoms. Of these 52, 12 (3.2%) were attributed to the indication for the referral. 86.2% of

colonic pathology could be found potentially using flexible sigmoidoscopy. Looking at the indications in detail in relation to significant pathology proximal to the splenic flexure only; diarrhoea (8/69) 11.6%, iron deficiency anaemia (1/30) 3.3% and bleeding only (2/89) 2.2% had significance.

Conclusion Colonic pathology proximal to splenic flexure with a causal link to the indication is rare when investigating rectal bleeding unless associated with diarrhoea. Flexible sigmoidoscopy may be more appropriate in other instances.

Disclosure of Interest None Declared.

PWE-046 EYE TRACKING ASSESSMENT SUGGESTS FASTER TIME TO DETECTION AND GREATER ATTENTION SPAN FOR DYSPLASTIC LESIONS WITH AUTOFLUORESCENCE COMPARED TO WHITE LIGHT ENDOSCOPY

J Ariyaratnam*, N Mohammed, V Subramanian. *Department of Gastroenterology, Leeds Teaching Hospitals, Leeds, UK*

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Introduction Surveillance endoscopy is crucial to the management of Barrett's oesophagus to diagnose and treat dysplasia. Recent studies have confirmed that increased time of inspection of the Barrett's mucosa increases detection rates. However increasing inspection time has both clinical and economic implications. Advanced imaging techniques like autofluorescence imaging (AFI) improves detection of dysplastic lesions, but little is known about the time taken to detect abnormalities with these modalities.

Methods We presented a series of endoscopic images of dysplastic lesions within the oesophagus to novice endoscopists on a computer screen. Each of the 10 lesions was presented in white light endoscopy (WLE) and AFI modes. The subjects reviewed these images in a random order with 10 seconds for each image. They were tasked with identifying the lesion as fast as possible and fixating on it for the duration of presentation. An eye tracking system (Grinbath eye tracker, College Station Texas) was used to record eye movements of the subjects and we calculated the amount of time it took to fixate on the lesion and the percentage attention time on each lesion.

Results A total of 26 novice endoscopists were recruited to the study, resulting in a total of 260 presentations of WLE images and 260 presentations of AFI images. The average time to fixation on the lesion was significantly less ($p < 0.05$) in AFI (5.47 seconds) compared to WLE (6.17). In addition, the percentage attention span on the lesion following detection was significantly greater for AFI (58.12%) than WLE (49.96) ($p < 0.0005$).

Pie chart representing all colonoscopies performed in 2013 with rectal bleeding as part of the indication

Abstract PWE-045 Figure 1

Abstract PWE-045 Table 1 Table to show the indications with rectal bleeding in relation to right side and left sided colonic pathology

Indication (Bleeding +)	Right sided colonic pathology	Left sided colonic pathology	Right sided cause for the indication	Total number of colonoscopies	Percentage of right sided causes for the indication
Abnormal sigmoidoscopy or CT Scan	5	23	0	28	0.0%
Positive family history, previous polyps or national screening	10	31	0	41	0.0%
Previous carcinoma	1	3	0	4	0.0%
Constipation	1	14	0	15	0.0%
Constipation and diarrhoea	0	23	0	23	0.0%
Bleeding only	11	77	2	89	2.2%
Diarrhoea	10	59	8	69	11.6%
Iron deficiency anaemia	5	25	1	30	3.3%