

from the endoscopy documentation, and a patient comfort score was completed by the patient in the recovery area. The endoscopists and nurses were unaware that the comfort data was going to be studied. The Wilcoxon matched pairs signal rank statistical test was used to look for comfort score differences between the groups.

Results A total of 139 procedures were included in the analysis. The OGD mean comfort scores were: endoscopist 1.3 (SEM, 0.1), nurse 1.6 (SEM, 0.1), patient 1.4 (SEM, 0.1). A significant difference was found between the endoscopist and nurse comfort scores ($p < 0.01$). No significant difference was found for FS comfort scores: endoscopist 1.8 (SEM, 0.1), nurse 1.6 (SEM, 0.1), and patient 1.8 (SEM, 0.2). For colonoscopy, the mean scores were: endoscopist 1.7 (SEM, 0.1), nurse 2.1 (SEM, 0.2), patient 1.6 (SEM, 0.2). A significant difference was found between patient and nurse comfort scores ($p < 0.01$), but not between the patient and endoscopist comfort scores.

Conclusion Endoscopy nurses gave a higher comfort score (more discomfort) than patients and endoscopists for OGD and colonoscopy, with no difference between the groups for FS comfort scores. These results suggest that the perception of procedure related discomfort differs between these three groups, particularly between endoscopists and nurses. As patient experience is a key aspect of endoscopy service quality, it is important to recognise that there are differences between the perceived comfort levels between the endoscopist, the nurse and the patient.

Disclosure of Interest None Declared.

PWE-041 MANAGEMENT OF LARGE COLONIC POLYPS IN A BOWEL CANCER SCREENING PROGRAMME

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Introduction Bowel cancer is the third most common cancer in the United Kingdom forming up to 13.6% of all newly diagnosed cancers (1). Bowel cancer screening colonoscopy allows early polyp detection at a curable stage. Complete resection and follow-up of large polyps is crucial to prevent malignant progression.

The aim of this study was to review the management of polyps with diameters ≥ 2 cm, particularly of sessile polyps, to assess the enbloc resection rates, completeness of resection using endoscopic mucosal resection (EMR) vs surgery and the incidence of malignant polyps.

Methods Patients were identified retrospectively from a regional bowel screening programme database. Details of index colonoscopy including polyp characteristics, method of resection and complications were recorded. Histology results were reviewed for all polyps. Outcomes from follow-up endoscopic surveillance were analysed.

Results One hundred and fifty-eight patients (102 males, 56 females, mean age 66.2 years) with polyps ≥ 2 cm were identified from 2182 screening colonoscopies from January 2010 to August 2013. Caecal intubation rate was 96.8% in this group.

Largest polyp size for each patient ranged from 20 to 60 mm (mean 26.6 mm). The incidence of adenocarcinoma was 11.9% ($n = 19$), all located within the left colon, with 12 requiring surgical resection.

One hundred thirty nine patients ($n = 139$) had 155 non-malignant large polyps, mostly tubulovillous or villous histology ($n = 110$, 79%).

Thirty-six patients had 37 sessile polyps which underwent primary resection by EMR ($n = 26$) or surgery ($n = 11$).

Polyp diameter was larger in the surgery group with mean polyp diameter of 40.4 vs. 28.0 mm ($p < 0.05$).

EMR enbloc resection rate was 11.5% ($n = 3$ out of 26). Completeness of excision was 38.4% ($n = 10$) at 3 months and 92.3% ($n = 24$) at 1 year. EMR complications included 1 perforation, 1 post polypectomy syndrome and 1 bleed.

Surgical resection included: anterior resection in 2, TEMS excision in 7 and right hemicolectomy in 3.

Conclusion Sessile polyps ≥ 2 cm are relatively uncommon in an asymptomatic bowel cancer screening programme (37 in 2182 colonoscopies). They can be successfully resected by EMR without recurrence in 92.3% at 1 year providing a 3 month site check is performed in all piecemeal polypectomies.

REFERENCE

1 Cancer for National Statistics 2010. Office for National Statistics. http://www.ons.gov.uk/ons/dcp171778_263537.pdf

Disclosure of Interest None Declared.

PWE-042 ASSOCIATION BETWEEN MIDAZOLAM DOSE AND CAECAL INTUBATION RATE AT COLONOSCOPY

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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. Caecal intubation rate (CIR) is a commonly used performance indicator for colonoscopy. Data exploring the relationship between midazolam dose and CIR is limited.

Methods A retrospective cohort study of all patients who had undergone a 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 depth of insertion were extracted into a standardised form. Caecal intubation was defined as insertion of the colonoscope to a point proximal to the ileocaecal valve so that the entire caecum could be visualised.

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. 1004 patients had a low dose of midazolam (<2 mg), 4618 a standard dose (2 mg) and 578 a high dose (>2 mg). The CIR in the low dose cohort was 83.6%, in the standard dose cohort was 91.3% and in the high dose cohort was 78.7%. Procedural discomfort was significantly greater in the high dose cohort. When patients with poor bowel preparation were removed from the cohort ($n = 5534$), CIR was 85.2% in the low dose cohort vs. 92.1% in the standard dose cohort. Patients who received doses of midazolam <2 mg or >2 mg

Abstract PWE-042 Table 1

Midazolam dose	<2 mg	2 mg	>2 mg
N	1004 (16.2)	4618 (74.5)	578 (9.3)
Caecum positively identified	839	4216	455
CIR	83.6%	91.3%	78.7%
P-value	<0.001	–	<0.001

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

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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.

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

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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%