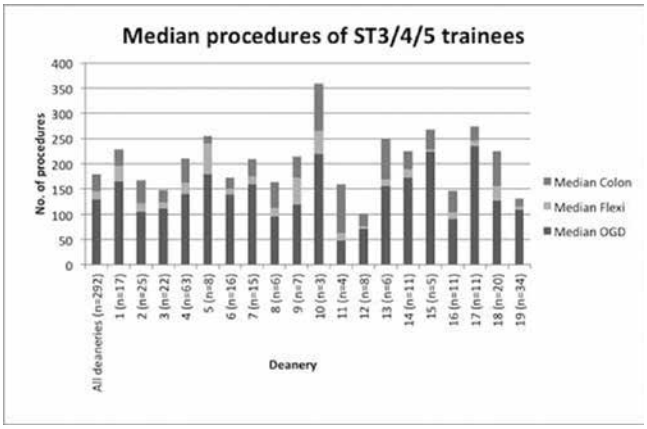
variation was seen between trainees both within individual deaneries and between deaneries. The median exposure to endoscopic units (OGD/flexi = 1 unit; colon = 2 units) increased from ST3-ST6 (112–218–275–304) before tailing off at ST7 (227). LAT trainees performed fewer endoscopic units (median 97 units). This pattern was also seen for median number of procedures. Numbers of colonoscopies were generally low across all deaneries. 8 deaneries outperformed the ARCP targets for overall procedures performed at ST3 level and this was accounted for largely by OGDs. Few deaneries met the published targets at ST4-ST7 level. Trainees performed an average of 31 training lists each year (range 0–134; median 29) and 12 service lists (range 0–210) the latter of which were largely, but not entirely, restricted to senior trainees in this dataset.



Abstract PTU-015 Figure

Conclusion Trainees are performing fewer procedures than recommended in the ARCP guidelines. The variation in endoscopy numbers both between and within trainee grade and deanery suggest factors which can be explored to optimise future opportunities. This analysis should be undertaken regularly to inform The Training Committee of future trends in endoscopic training.

Disclosure of Interest None Declared

Endoscopy

PTU-016 ENTONOX VS SEDATION IN COLONOSCOPY: A PROSPECTIVE COHORT STUDY

doi:10.1136/gutjnl-2013-304907.109

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Introduction Intravenous sedation for colonoscopy is associated with cardiorespiratory risk and delayed recovery. There is also the perception that patients tolerate the procedure better with sedation. Moreover some studies suggest that colonoscopy performance is compromised if patients do not tolerate the procedure well. This study aimed to compare inhaled nitrous oxide (entonox) with intravenous sedation during colonoscopy in terms of completions rates, patient comfort and changes in physiological status.

Methods 288 patients undergoing elective colonoscopy were included performed by a single endoscopist. Carbon dioxide was used for insufflation. Patients were offered a choice to have intravenous sedation or entonox. Vital signs were recorded before, during and after the procedure. Following the colonoscopy, patients completed a satisfaction survey questionnaire charting symptoms of pain and bloating (modified 10 mm Visual analogue score tool) and the endoscopist scored patient comfort.

Results Out of the 288 participants, 143 (48 women and 95 men) chose entonox and 145 (66 women and 79 men) opted for sedation. Of those who received entonox intially, 25 were converted to sedation during their procedure (results not reported). For those who had sedation, the mean dose of Midazolam was 2.4 mg (SD 0.6) and Pethidine was 28.5 mg (SD 9.0). The most common indications for colonoscopy in both groups were altered bowel habit, chronic diarrhoea and inflammatory bowel disease surveillance.

Conclusion

1. Entonox is as effective as intravenous sedation in relieving pain and bloating during colonoscopy without compromising performance.
2. Entonox had less effect on systolic blood pressure suggesting it may be more appropriate in the elderly or those with cardio-pulmonary compromise.

Disclosure of Interest None Declared

PTU-017 SYSTEMATIC REVIEW OF ENDOSCOPIC FULL THICKNESS RESECTION (EFTR) TECHNIQUES FOR COLONIC LESIONS

doi:10.1136/gutjnl-2013-304907.110

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Introduction Introduction of the English Bowel Cancer Screening Program has resulted in increase in the number of patients diagnosed with endoscopically irresectable colonic polyps. A significant proportion of these patients undergo hemicolectomy associated with a significant risk of death, anastomotic leakage and general

Abstract PTU-016 Table

Parameter	Entonox n = 143	Sedation n = 145	P-value
Time to caecum (mins)	8.9 (SD 3.6)	8.9 (SD 4.4)	NS
Completion to caecum (%)	135 (94%)	137 (94%)	NS
Endoscopist score for patient comfort (Score out of 10, higher scores imply improved comfort)	7.3 (SD 2.20)	6.9 (SD 2.33)	NS
Reduction in blood pressure post-procedure (Systolic BP)	10.2 (SD 18.08)	14.8 (SD 17.22)	0.05
Pain (score out of 10, higher scores imply worse pain)	4.8 (SD 2.63)	4.5 (SD2.80)	NS
Bloating (score out of 10, higher scores imply worse bloating)	4.3 (SD 2.68)	4.0 (SD3.08)	NS
Recommend chosen parameter for future (Score out of 10, higher scores imply recommendation for future)	6.4 (SD 3.57)	6.1 (SD 3.64)	NS

Abstract PTU-017 Table 1 Outcome measures

Authors	Study	Procedure completed	Intra-operative complications	Procedure duration (min(range))	Specimen size (cm (range))	Survival
Schurr et al.	A&S	20/20(100%)	5/10(50%) & 0/10(0%)	-	Over 3 cm*	
	A	20/20(100%)	3/10(30%) & 0/10(0%)	-	-	
Rajan et al.	S	8/8(100%)	4/8(50%)	30.2	3.6(1.5–5.2)	8/8(100%)
Raju et al.	S	19/20(95%)	0/19(0%)	50(24.5– 67)	1.7(1–2.5)	19/20(95%)
Von Renteln et al.	A	9/20(45%) & 8/8(100%)	6/9(67%) & 2/8(25%)	14.8(7–36) & 31.5(21–42)	3.3(2.4–5.5)	
Rieder et al.	A	2/2(100%)	0/2(0%)	33 +/- 4	2.2+/-0.1	
Von Renteln et al.	S	8/8(88%)	2/8(25%)	3(2–12)	7.6cm^2(5.4–11 cm^2)	7/8(88%)
Kennedy et al.	A&S	3/3(100%) & 4/4(100%)	0/3(0%) & 0/4(0%)	233(201–245)**	2.5(2–3) & 3.5(3.5–4)	4/4(100%)
Total		101/113(89%)	22/101(22%)			48/50(96%)

Abbreviations: A = acute study, S = survival study; *Reported for 5 animals only, ** Reported for survival group only

complications. The need for an alternative, less invasive treatment option for this patient cohort is becoming increasingly clear.

Methods Systematic literature searches identified articles describing EFTR in the colon of adult pigs, published 1990–2012. Complication rates, anastomotic bursting pressures, procedure duration, specimen size and quality, and post-mortem findings were analysed.

Results Four EFTR techniques using endoscopic stapling devices, T-tags, compression closure or laparoscopic assistance for defect closure before or after specimen resection were reported. 113 procedures were performed in 99 porcine models *(Table 1)*, with an overall success rate of 89% and a 4% mortality. The intraoperative complication rate was 22% (0% > 67%).Post-resection closure methods (as opposed to simultaneous resection and closure) more commonly resulted in failure to close the defect (5% > 55%) and a high incidence of abnormal findings at post-mortem examination (84%). Significant heterogeneity was observed in procedure duration (average 3 min to 233 min) and size of the excised specimen (average 1.7 cm to 3.6 cm). Anastomotic bursting pressures and specimen quality were poorly documented.

Conclusion The technique of EFTR is in development, with experience currently limited to preclinical studies. The inability to close the resection defect reliably is the primary obstacle to further progress. This review highlights the challenges that need to be addressed in future preclinical studies.

Disclosure of Interest None Declared

PTU-018 CAN CHROMOENDOSCOPY HELP IN COELIAC DISEASE AS PART OF A DUODENAL BIOPSY STRATEGY?

doi:10.1136/gutjnl-2013-304907.111

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Introduction Chromoendoscopy is increasingly being used to detect, localise and characterise mucosal abnormalities, however its role in coeliac disease remains to be established. Endoscopic markers of coeliac disease (reduction of folds, scalloping, mosaic pattern, visible blood vessels and nodularity of the duodenal folds) are often difficult to recognise, therefore many centres take routine duodenal biopsies or have a low threshold for biopsy, ensuring high detection rates. This study evaluates if dye spray can improve identification of endoscopic markers of coeliac disease, potentially leading to a biopsy avoidance strategy.

Methods Patients undergoing clinically indicated oesophagastroduodenoscopy (OGD) were prospectively recruited from a single endoscopy list between January 2011 and November 2012. Patients were divided into two groups: patients with no previous history of coeliac disease (Group 1, n = 201) and patients with established coeliac disease (Group 2, n = 24). Eight experienced endoscopists undertook all procedures, with endoscopic findings reported both before and after the use of indigo carmine dye spray. Endoscopic findings were compared using a McNemar test, with p values < 0.05 considered significant. In addition, endoscopic findings were compared to histological findings to determine sensitivity, specificity, positive predictive values (PPV) and negative predictive values (NPV) for differing endoscopic techniques.

Results Of the 225 patients recruited, 97 (43%) had positive serology (either endomysial or tissue transglutaminase antibodies). In Group 1, 61(30%) were newly diagnosed coeliac patients with endoscopic markers identified in 44% (27/61). Dye spray use within the duodenum identified a further 5 patients (32/61, 52%), however this improvement in diagnostic yield was not statistically significant (P = 0.63). Sensitivity, specificity, positive and negative predictive values for standard endoscopy to detect coeliac disease were 44%, 99%, 93%, 80% respectively compared to 52%, 99%, 94%, 83% for chromoendoscopy. In Group 2, 12 patients had persisting Marsh 3 changes at biopsy, however endoscopic markers were identified in only 5 (21%) with dye only increasing yield by a further one patient (6/24, 25%).

Conclusion Dye spray is easy to use and inexpensive (<£1/endoscopy), however in our study derived no additional benefit to conventional endoscopy for diagnosing patients with coeliac disease. Given the low sensitivity of endoscopic markers, we advocate duodenal biopsies in all patients where there is a high clinical suspicion of coeliac disease, irrespective of the endoscopic mucosal findings.

Disclosure of Interest None Declared

PTU-019 A COMPARISON OF TWO COLONOSCOPE WITHDRAWAL TECHNIQUES: INTERIM ANALYSIS OF A RANDOMISED CROSS OVER STUDY

doi:10.1136/gutjnl-2013-304907.112

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Introduction Many endoscopists withdraw the colonoscope with the patient in a single position (left lateral or supine), while others advocate position change. A previous study in a small group of patients suggested position change is beneficial in the transverse and left colon. We have compared colonoscope withdrawal in the supine position with position change.

Methods A randomised cross-over study compared colonoscope withdrawal in the supine position with position change (caecum to