BSG endoscopy section symposium and free papers: Dealing with endoscopic disasters - "How I do it"

OC-011 ENDOSCOPIC THERAPY IN BARRETT'S OESOPHAGUS (BE) WITH HGD (HIGH GRADE DYSPLASIA) AND EARLY MALIGNANCY; A PROSPECTIVE, SINGLE CENTRE EXPERIENCE

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Introduction There is increasing evidence that endoscopic therapy in BE with a combination of endoscopic mucosal resection (EMR) and radiofrequency ablation (RFA) is an effective treatment of intra-mucosal cancer (IMC) and HGD. The widespread application of this therapy is yet to be assessed in the UK outside the trial setting. We present here the results of a single centre study from a large tertiary referral teaching hospital. We aim to assess the efficacy and safety of endoscopic therapy with EMR and RFA in the treatment of HGD and IMC.

Methods 102 consenting patients with a mean age of 69 (range 42–89) with HGD or IMC were enrolled between July 2008 and September 2011. All pathology was reviewed by a pathologist with a particular interest in Barrett's. The treatment protocol involved EMR of all nodular areas with subsequent RFA of all remaining Barretts epithelium. The RFA technique involved a combination of circumferential RFA (HALO 360) followed by subsequent focal ablation (HALO 90) of residual areas of Barrett's tongues or islands. The UK protocol involved a maximum of two HALO 360's and 3 HALO 90's.

Results 102 patients have been recruited (30 with IMC and 72 with HGD). Fifty patients have completed the treatment protocol (median of 1 HALO 360 and 1 HALO 90) and of these, 52% had initial EMR. Median follow-up in this group was 9 months (range 3–41). Thirteen of these 50 patients had IMC (26%) with 37 patients demonstrating flat HGD only. Of the 102 patients recruited, nine patients (8.7%) have progressed to invasive malignancy after a median of 12 months. As a result, there were 59 patients who exited the protocol following an intention to treat. To date eradication of dysplasia was achieved in 49/59 patients (83%) and eradication of metaplasia in 40/59 patients (68%). Three patients died from unrelated causes, two from cardiorespiratory comorbidities and one from concurrent lymphoma. Eight patients (8%) developed mild strictures. One patient required readmission for retrosternal pain requiring analgesia. There were no serious complications or peri-procedural mortality.

Conclusion This study demonstrates the efficacy of endotherapy with EMR and RFA in the treatment of IMC and HGD. Although further follow-up is required, these results suggest that such therapy should be offered to all patients as an alternative to surgery.

Competing interests None declared.

OC-012 A STRUCTURED EVALUATION OF PATIENT SAFETY INCIDENTS AND NEVER EVENTS IN ENDOSCOPY

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Introduction Medical error is common and causes significant morbidity and mortality.¹ A significant proportion of adverse events

are deemed to be preventable and often arise from multiple systems failures as per Reason's "Swiss Cheese" model. The DOH's "never events" (NE) are defined as serious but preventable patient safety incidents (PSI). These include overdose of midazolam during conscious sedation & failure to monitor/respond to oxygen saturations, which are anecdotally common. NHS Trusts are incentivised to prevent NEs as serious financial penalties are incurred. To further improve quality and safety in Endoscopy, a structured analysis of current safety pitfalls is relevant, particularly in the context of the NHS Bowel Cancer Screening programme, where increasing numbers of asymptomatic individuals will undergo an endoscopic procedure.

Methods All types of GI endoscopic procedures were prospectively observed in a single tertiary endoscopy unit by a Gastroenterologist trained in patient safety and behavioural observation. A representative sample of Endoscopists by specialty (physician, surgeon & nurse) & grade (trainee, consultant & BCS Endoscopist) were recruited. The procedures were observed from within the endoscopy room or via AV live link with a tri-split screen (team, luminal and scope guide views). The medical record, nursing notes & endoscopy reports were also reviewed. All PSIs (defined as near misses, adverse events or NEs) were qualitatively recorded and subsequently categorised by expert consensus for type (clinical, process or human error) & severity (1=Mild 2=Moderate 3=Severe).

Results 90 procedures (22 lists, 16 Endoscopists) were analysed. A total of 41 PSIs were identified (PSI rate = 45%). 51% (n=21) of these were categorised as "severe" & 24% (n=10) had the potential to be full NEs. The Abstract OC-012 table 1 illustrates some examples of severe PSIs:

Abstract OC-012 table 1 Examples of patient safety incidents

Patient safety incident (PSI)	Never event	Severity	Frequency
Patient mis-identification	Y	3	1
Incorrect procedure (colonoscopy instead of FS)	Y	3	1
Sedated patient in corridor unmonitored	Y	3	2
Sedation with no O ₂ saturation monitor	Y	3	2
PPH (re-scope under GA & overnight admission)	N	3	1
Polypectomy without IV access	N	3	1

FE, flexible sigmoidoscopy; PPH, post-polypectomy haemorrhage.

Conclusion This study is the first attempt to identify and categorise relevant Endoscopy PSIs in a structured fashion. Findings indicate that PSIs may be more common than previously thought. While PSIs in this study did not incur serious consequences for patients, they represent a latent risk & should be addressed. The focus for adverse events should shift from that of "reporting" to "understanding" the multifaceted reasons why a PSI occurred. Near misses represent a golden opportunity to intervene proactively. Further studies will examine the root cause for these errors & whether PSIs & never events can be reduced by implementing and validating an Endoscopy Safety Checklist.

Competing interests M Matharoo grant/research support from: The NHS BCS research programme, conflict with: the freemasons grand charity, A Haycock: None declared, N Sevdalis: None declared, S Thomas-Gibson: None declared.

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OC-013 HOSPITAL ATTENDANCES AFTER OUTPATIENT COLONOSCOPY: THE HIDDEN HEALTHCARE BURDEN?

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Introduction With the introduction of national bowel cancer screening and increased surveillance, colonoscopy is being

Abstract OC-013 Table 1 The number of hospital visits occurring within 14 days of outpatient colonoscopies and the associated healthcare costs

	Total number of visits to the accident and emergency (A&E) department within 14 days of colonoscopy	Number of visits to the A&E department within 14 days attributable to colonoscopy (% of total)	Number of visits to the A&E department within 14 days attributable to colonoscopy, requiring admission	Total additional cost of hospital attendances attributable to colonoscopy (£)
	22	14 (1.25)	5	
Average cost per attendance (£)	145	145	3338	
Total additional cost (£)	3190	2030	16 690	18 720

increasingly used as both a diagnostic and therapeutic tool. It is deemed a relatively safe procedure with the overall complication rate being reported at approximately 0.1%. However, it was recently reported in a study from the USA that procedure related hospital attendances within 14 days of colonoscopy were as high as 0.84%.¹

Methods The aim of this study was to identify the true morbidity and related healthcare costs after outpatient colonoscopy in a UK population. We performed an observational study of hospital visits occurring within 14 days of colonoscopy at West Middlesex University Hospital, London. We collected data from 2011, using the hospitals' electronic records system, enterpriseCAMIS®. Cases meeting the predetermined criteria were analysed to assess whether presentations could be attributed to the colonoscopy, and overall healthcare costs were determined.

Results Over the 12-month period, 1115 outpatient colonoscopies were performed; the Abstract OC-013 table 1 below summarises the number of hospital visits occurring within 14 days and associated healthcare costs. Of the 1115 colonoscopies performed, there were 22 visits to the A&E department within 14 days; 14 of these visits were procedure-related, with five requiring admission. Abdominal pain was the commonest reason for emergency attendance, with bleeding, perforation, post-polypectomy syndrome, sedation and other gastro-intestinal causes accounting for the remaining. The average cost for patients attending A&E was £145; £3338 for those requiring admission; working out as a total cost of £18 720 over the 12-month period.

Conclusion Outpatient colonoscopy is an essential diagnostic and therapeutic tool. However, data on the overall morbidity burden is limited. With a 1.25% incidence of emergency attendances within 14 days of colonoscopy and significant associated healthcare costs, this study supports recently published data from the USA and highlights the importance of recognising these complications within a UK population.

Competing interests None declared.

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OC-014 HIGH DEFINITION COLONOSCOPES CAUSE MORE PAIN AND REQUIRE MORE SEDATION THAN THE STANDARD VIDEO ENDOSCOPE

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Introduction It has been anecdotally observed in this centre, a tertiary teaching hospital, that high definition colonoscopes (HDC) seem to be more difficult to manoeuvre and cause more pain to the patient. Although studies have been reported that HDC may have a higher polyp detection rate compared to standard video colonoscopy¹ (SVC) there is very little data on the tolerability and comfort of HDC. To our knowledge this is the first study to assess the tolerability of HDC against SVC. The colonoscopy score used in this

centre is a five point score which is documented by the assisting nurse and used to assess patient experience.

1. No pain
2. 1 or 2 Episodes of mild discomfort
3. 2 or More episodes of discomfort
4. Significant discomfort
5. Extreme discomfort.

Methods All colonoscopies between 1 April 2010 and 31 March 2011 were identified from the endoscopy database and the reports were retrieved and reviewed for quality indicators (sedation dosing, caecal intubation and polyp detection). Separate pain score records documented by the endoscopy nurses were also retrieved. When analysing the pain score, it was divided into two groups (1 and 2 vs 3, 4 and 5) as a score of 3 and above describes markedly worse pain for the patient. These results were analysed for significance using appropriate statistical tests (Fishers and Mann–Whitney U).

Results A total of 4401 colonoscopies were performed by 33 endoscopists during the study period. 611 of these were excluded due to incomplete data. Of the remaining 3790 procedures, 902 procedures were performed with HDC and 2888 with SVC. There were no demographic differences between the two groups. 5% more patients had a pain score of 3 or more when using the HDC ($p=0.01$). Their use was also associated with a marginal but significant increase in the dose of midazolam and fentanyl ($p<0.001$ and $p=0.04$ respectively). Polyp detection was significantly lower in the HDC group ($p=0.01$). The results are shown in Abstract OC-014 table 1.

Abstract OC-014 Table 1 Differences between HDC and SVC

Variable	HDC	SVC	p Value
Comfort score 1 or 2	665 (73.7%)	2255 (78.1%)	0.01
Comfort score 3, 4 or 5	237 (26.3%)	663 (21.9%)	
Midazolam mg (mean)	3.57	3.37	<0.001
Fentanyl µg (mean)	62.83	61.13	0.04
Caecal intubation rate	864 (95.79%)	2784 (96.4%)	0.42
Polyp detection rate	299 (33%)	1096 (38%)	0.01

Conclusion This is the first study evaluating tolerability of HDC. In this large cohort of patients performed by a large number of endoscopists, tolerability and polyp detection were worse with HDC.

Competing interests None declared.

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OC-015 PROGNOSTIC INDICATORS FOR SHORT AND LONG-TERM OUTCOMES OF COLORECTAL ENDOSCOPIC MUCOSAL RESECTION (EMR): A MULTI-CENTRE (CERT-N) STUDY

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