REFERENCE

1. NCEPOD. Scoping our practise; the 2004 report of the National Confidential Enquiry into patient Outcome and Death. London: NCEPOD 2004. Available from: URL: <http://www.ncepod.org.uk/2004.htm>

PWE-062 GASTROSCOPY WITHOUT A GASTROSCOPE! FEASIBILITY IN A PORCINE MODEL USING A MAGNETIC CAPSULE

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Introduction There is little evidence that gastroscopy affects patient outcomes¹, but it is uncomfortable and incurs the risk of intubation and sedation. Capsule endoscopy is a non-invasive tool used primarily to image the small and large bowel. Although a large volume organ, examination of the stomach might be enabled by magnetic control allowing manoeuvrability and positional change.

Methods A standard porcine stomach model, commonly used for endoscopy training purposes was used in a feasibility study of magnetically steerable capsule endoscopy. Different coloured/shaped beads were sewn into each major location of the stomach (cardia, fundus, greater and lesser curve, anterior and posterior wall, antrum and D1). The stomach was distended with 1000mls of water. Endoscopy was performed according to a set protocol using a handheld magnet, Mirocam Navi (Intromedic Ltd), positional changes (supine, 30° right lateral, head down, 30° left lateral) and a “real time” viewer. The order and time each tag was identified was recorded alongside the total procedure time.

Results All stomach tags were identified in 87.2% (41/47) of examinations. Missed tags (marked in figure as red dots, representing an incomplete examination) included antrum (3/6), cardia (2/6) and posterior wall (1/6): none were missed in the latter 25 procedures. Mean examination times for the first 23, second 23 and all procedures were 10.28, 6.26 ($p < 0.001$) and 8.27 (3.25–16.32) minutes and all were completed by 4 mins after 39 procedures. The order in which tags were identified in the mid-body of the stomach (greater, anterior and posterior) was variable and interchangeable. If this area was considered as one site, the order of tag identification would be: cardia (1), fundus (2), mid body (3), lesser curve (4), antrum (5) and D1 (6) in 76.6% of examinations. No difficulties were observed with the current procedure protocol and therefore no modifications recommended.

Abstract PWE-062 Figure

Conclusion Examination of the upper gastrointestinal tract is feasible using a magnet and positional change as demonstrated in this porcine model. A learning curve was evident and this model might be used for training in the future. Further investigation using porcine models and in humans is necessary to fully realise the scope of this exciting novel technology.

Disclosure of Interest None Declared.

REFERENCE

1. Offman JJ, Rabeneck L The effectiveness of endoscopy in the management of dyspepsia: a qualitative systematic review. *Am J Med.* 1999 Mar; 106(3):335–46.

PWE-063 EVALUATION OF A PREVIOUSLY DESCRIBED SCORING SYSTEM FOR PREDICTING COMPLICATIONS POST ERCP

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Introduction Endoscopic retrograde cholangiopancreatography (ERCP) is widely performed for the management of biliary and pancreatic duct disorders. Despite this, ERCP is associated with a significant complication rate, with the literature reporting rates of post-procedural pancreatitis of 1–5%, cholangitis in 1–5% and haemorrhage in 1%. A previous study (Jeurnink *et al* 2011¹) described a prognostic model for predicting those patients at greater risk of developing post ERCP complications, and identifying those who may be safely discharged shortly after ERCP. The aim of this study was to validate this scoring system in an external cohort to assess whether it can be used in general clinical practise.

Methods Details of all patients undergoing ERCP over the 22 month period from May 2010 to February 2012 were recorded on an institutionally approved database. Electronic records were subsequently accessed to identify post ERCP complications within 30 days of procedure. The predictive score as described was retrospectively calculated and applied to all patients, with a score > 3 being considered high risk. Sensitivity, specificity, negative and positive predictive values were then calculated.

Results 697 patients (409 females, mean age 64, mean ASA grade 2.35) underwent ERCP during the study period. The overall complication rate was 9.0% (63/697); cholangitis 2.3% ($n = 16$), pancreatitis 2.1% ($n = 15$), bleeding 1.6% ($n = 11$), perforation 1.3% ($n = 9$) and miscellaneous in 1.7% ($n = 12$). The mortality rate was 0.4% in our cohort ($n = 3$). 681/697 (97.7%) had a predictive score < 4 but ERCP grade 1/2/3 was 531/149/17 respectively. Of those with a predictive score ≥ 4 , 12.5% ($n = 2/16$) developed a post-ERCP complication (both severe pancreatitis) versus 8.4% ($n = 57/681$) with a score < 4 ($p = \text{ns}$). Using the predictive score gave a sensitivity of 3.4%, specificity of 97.8%, positive predictive value of 13% and a negative predictive value of 92%.

Conclusion The predictive scoring system as previously described does not accurately stratify patients into high or low risk groups or predict post-ERCP complications in our cohort. This may be due to case mix in the original cohort leading to lack of generalisation. Further work is needed to formulate a clinically applicable scoring system which has higher accuracy.

Disclosure of Interest None Declared.

REFERENCE

1. Jeurnink SM, Siersema PD, Steyerberg EW, Dees J, Poley JW, Haringsma J, Kuipers EJ. Predictors of complications after endoscopic retrograde cholangiopancreatography: a prognostic model for early discharge. *Surg Endosc* (2011) 25: 2892–2900

PWE-064 UK WIDE SURVEY ON THE PREVENTION OF POST-ERCP PANCREATITIS

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Introduction Acute pancreatitis is the most common complication following ERCP. In 2010, the European Society of Gastrointestinal Endoscopy delivered Guidelines on the Prophylaxis of post-ERCP pancreatitis (PEP).¹ These included Grade A recommendations advising the use of prophylactic pancreatic stents and NSAIDs in high-risk cases. The aim of this study was to capture the current practise of UK biliary endoscopists in the prevention of PEP. **Methods** In Summer 2012 an anonymous online 15-item survey was e-mailed to 373 UK Consultant Gastroenterologists, GI Surgeons and Radiologists identified to perform ERCP.

Results The response rate was 59.5% (222/373). Of respondents 52.5% considered ever using prophylactic pancreatic stents (PPS) for the prevention of PEP. Those who used PPS always attempted to do so for the following procedural risk factors; pancreatic sphincterotomy (48.9%), suspected sphincter of Oddi dysfunction (46.5%), pancreatic duct instrumentation (35.9%), previous PEP (25.2%), precut sphincterotomy (8.5%) and pancreatic duct injection (7.8%). The decision to use prophylactic NSAIDs was significantly associated with attempts at PPS placement ($p < 0.001$). The stent characteristics, follow-up methods and timing varied significantly. Of those who did not use PPS 64.1% cited a lack of conviction in their benefit as the main reason for their decision. Self-reported pharmacological use rates for PEP prevention were: NSAIDs (34.6%), Antibiotics (20.6%), Rapid IV Fluids (13.2%) and Octreotide (1.6%). Only 6% of respondents routinely measured amylase post-ERCP.

Conclusion Despite strong evidence-based guidelines for prevention of PEP less than 53% of ERCP practitioners either consider using pancreatic stenting or NSAIDs. This suggests a need for the development of BSG guidelines to increase awareness in the UK. Even amongst stent users PPS are being underused for most high risk cases. Pharmacological measures were rarely used for PEP prophylaxis. Routine post-ERCP serum amylase measurement was rare even in day case procedures.

Disclosure of Interest None Declared.

REFERENCE

1. Dumonceau JM, Andrulli A, Deviere J, *et al.* European Society of Gastrointestinal Endoscopy (ESGE) Guideline: prophylaxis of post-ERCP pancreatitis. *Endoscopy*. 2010; 42(6):503–15.

PWE-065 COLONOSCOPY AND BIOPSY PRACTICE IN PATIENTS WITH DIARRHOEA

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Introduction Colonoscopy is often performed in patients undergoing investigation for unexplained diarrhoea. Obtaining colonoscopic biopsies for persistent diarrhoea is an auditable JAG standard. The aims of this audit were (1) To determine the diagnostic yield of colonoscopy in patients undergoing investigation for diarrhoea. (2) To determine the rate at which biopsies are undertaken in patients with a “normal” colonoscopy. (3) To assess for variations in biopsy sampling amongst endoscopists.

Methods An analysis was performed of all colonoscopies with the indication of diarrhoea, undertaken in 2010. Interrogation of the electronic endoscopy reporting tool, looked at endoscopist discipline, findings at endoscopy, if biopsies were taken, number of biopsies and biopsy sites, and corresponding histology results.

Results A total of 609 patients were identified in whom the indication for colonoscopy was diarrhoea. The mean age was 57 years (range 14–90 years) with 40.4% male and 59.6% female. Caecal intubation was achieved in 565 patients (92.8%) with terminal ileal

intubation recorded in 231/609 patients (37.9%). Overall, biopsies were taken in 545/609 patients (89.5%). The median number of biopsies taken per procedure was 10.5 (range 1–22), with a median number of 5.5 from the left side of the colon and 4 from the right side. Colonoscopic appearances were abnormal in 295/609 (48.4%) patients with isolated proximal disease in 36/295 (12.2%). The most common endoscopist abnormality was diverticular disease in 149 patients (24.4% overall), followed by polyps in 115 (18.8%), suspected inflammation in 67 (11%), suspected tumour/cancer in 11 (1.8%), and melanosis coli in 1 patient (0.2%). Of the patients with suspected mucosal inflammation, histology revealed features of IBD in 25 (4.1%) of patients with isolated right-sided inflammation in 5 (0.8%) and terminal ileum alone in 2 (0.32%). Of the 609 colonoscopies, 261 (42.9%) were referred as a 2-week wait urgent suspected cancer referral, yet a diagnosis of cancer was made in only 4 cases (1.53%). Of the 7 cancers detected, 6 (85.7%) were located in the left colon.

Of the 314 «normal» colonoscopies, biopsies were taken in 268 (85.4%) patients and histology confirmed microscopic colitis in 15 (4.77%) and mucosal inflammation in 27 (8.6%). There was variation in the frequency and number of biopsy specimens obtained: GI physicians 91.59% (median number 10.5), GI surgeons 84.39% (median number 8.5), Nurse/GP Endoscopist 92.45% (median number 8) and non-GI physicians/surgeons 92.8% (median number 5).

Conclusion Although abnormal findings are not uncommon in patients undergoing colonoscopy for symptoms of diarrhoea, yield for cancer is low. There is variation in practise among endoscopists in obtaining biopsy samples in the setting of diarrhoea and normal colonoscopy

Disclosure of Interest None Declared.

PWE-066 IMPACT OF RIGHT COLON RETROFLEXION ON ADENOMA DETECTION RATE

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Introduction Colonoscopy is less effective in visualising the right colon compared with the rest of the colon and small adenomas are frequently missed during routine procedures. The aim of this study was to determine whether retroflexion in the right colon would improve adenoma detection rate.

Methods We carried out a prospective pilot study on a total of 37 adults who underwent elective diagnostic colonoscopy with a EC3490 TFi (Pentax retro-view) colonoscope between October 2012 and January 2013. A careful colonic examination to the caecum in the forward view was performed. The colonoscope was then retroflexed in the right colon to identify any additional adenomas. Success rate of retroflexion, adenoma detection rate in forward-viewing as well as in retroflexion were assessed along with comfort scoring and incidence of adverse events.

Results Study population of 37 patients, mean age 62 yrs, F: M ratio 1:0.8. Retroflexion in the right colon was successful in 34 patients (92%), with looping on insertion the cause of the failures. On forward viewing 28 polyps were identified, of which 11 adenomas were in the proximal colon. Retroflexion identified an additional 3 adenomas (all < 1cm), improving the overall adenoma detection rate by 9%. 81% of patients did not experience any discomfort (comfort score 0) during the procedure. Apart from one minor post-polypectomy haemorrhage no adverse events were recorded.

Conclusion This preliminary data suggests that right colon retroflexion may improve the adenoma detection rate of colonoscopy. Although the procedure is feasible, safe and easy to carry out, further high power studies are needed to establish whether retroflexion should be incorporated into standard colonoscopy technique.

Disclosure of Interest None Declared.