endoscopy is only indicated when symptoms of GERD persist or progress despite appropriate medical therapy. Inappropriate use of upper endoscopy does not improve the health of patients, exposes them to preventable harms and lead to unnecessary interventions and result in unnecessary costs with no benefit. Aim: To assess the findings at upper endoscopy performed in patients under the age of 50 presenting with GERD without alarm symptoms. Method: A multicentre, retrospective analysis in a large London NHS Foundation Hospital (UK) was performed. All patients endoscoped for reflux symptoms alone were found to have Barrett’s (7%). 627 of the 1772 patients were under the age of 50 at time of endoscopy. Out of the 627 patients under the age of 50, 23 (5.6%) patients were identified as having Barrett’s at the time of endoscopy but histologically proven in only 13 (2%) the others were shown to have reflux esophagitis only. No patients were found to have cancer of the oesophagus or stomach. Of the 13 patients with proven Barrett’s, 4 patients had a length longer than 3 cm with a maximum length of 6cm. All other patients had short segments of Barrett’s (less than 3 cm) and none had evidence of dysplasia or malignancy. Conclusions: The role of endoscopy in patients under the age of 50 with symptoms of GERD only seems to be an inappropriate first line investigation. In our case series only 2% patients endoscoped under the age of 50 were yield. However, the quality of SB visualization after immediate duodenal delivery is not known. Our aim was to compare the quality of SB visualization after immediate delivery to the standard procedure (postponed SBCE ingestion after oral preparation). Patients and Methods: This was a prospective case-control study. After sample size calculation, 48 patients with OGIB were selected. Patients with active hemorrhage on SBCE were excluded, as bowel visualization would likely be altered downstream the bleeding site. Twenty-two cases (group 1) were included and matched to 22 controls (group 2) according to gender, age and type of bleeding (overt/occult). Patients in group 1 received a split 1L PEG frames before SBCE was delivered into the duodenum immediately after normal colonoscopy. Patients in group 2 received 1L of PEG the day before ingesting the SBCE, distant from the initial bidirectional endoscopies. A validated Computed Assessment of Cleansing score (CAC), based on the automated calculation of the ratio of red and green pixels (R/V) of each frame of each video sequence of the SB, was used for objective comparison. Results: A preliminary study confirmed good correlations between reddish frames (with CAC<1.35) and those deemed dirty. In group 1, all SBCE were successfully delivered with no delay after initial videocapsule, whatever the type of bleeding. In group 2, the average timespan between initial endoscopy and SBCE was 4 days for overt bleeding, and 65 days for occult bleeding. There were no significant differences between the 2 groups (p=0.25). There was no significant difference between the 2 groups in terms of SB transit time (p = 0.53), total number of SB frames (p=0.21), and rates of complete SB examination. Conclusion: According to an objective CAC score, SBCE delivery into the duodenum in OGIB, immediately after normal bidirectional endoscopies, allows a SB quality of visualization not different to that of the delayed standard procedure, with virtually no delay and no additional preparation for patients. The potential of this approach to increase the diagnostic yield of SBCE in OGIB, and to decrease the length of hospital stay, should be evaluated.

Tu1052
The Tissue Effect of Argon Plasma Coagulation on Human Gastric Mucosa: Ex Vivo Study
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Background and Aims: Event though argon plasma coagulation (APC) for gastric neoplasm may be one of the safe alternative treatment method, the difficulty in predicting the depth of invasion is still existed as limitation. In this study, we tried to know the depth of coagulation effect according to the energy level of APC in human gastric mucosa with ex vivo study. Methods: APC (ERBE VIO300D/APC2, USA, Marletta, Ga) to mucosa was performed on the 10 resected distal parts of human stomachs which were obtained after total gastrectomy at Asan Medical Center, Seoul, Korea. In patient with gastric cancer which was located on the higher body of stomach, total gastrectomy was done and that specimen was moved to the laboratory room before formalin fixation. With review of gross and endoscopic findings, the tumor-free area was removed by pathologist and used for this study. In each 10 resected remnant human stomachs, 30 times of APC were applied according to the wart (40, 60, and 80 watt) and duration (5, 10, 15, 20, 25 sec) in two groups (normal saline injection group and non-injection group). After APC application, specimen was fixed and made as slides. Then, pathological review was performed to know the depth of thermal damage which could coagulate complete mucosal layer without injuring proper muscular layer. Results: To complete remove mucosal layer, 400 - 800 joule (joule) was needed in non-injection group and the percentage of proper muscular damage was increased in more than 900 joule. In normal saline injection group, there was no need in 800 joule and the percentage of proper muscular damage was increased in more than 900 joule. Conclusion: The tissue effect of APC varies according to the parameter setting of APC. APC results with lower risk of perforation in gastric mucosal neoplasm.

Tu1053
Is There Any Value of Performing an Endoscopy in GERD Patients Under 50?
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Introduction: For gastro-esophageal reflux (GERD), upper endoscopy may be indicated in older men with chronic GERD symptoms (greater than 5 years) and additional risk factors such as elevated body mass index and tobacco use, to increase detection of Barrett's esophagus and esophageal adenocarcinoma. Upper endoscopy is indicated in patients with GERD and alarm symptoms such as dysphagia, weight loss, bleeding and anaemia and recurrent vomiting. Without alarm symptoms upper endoscopy is only indicated when symptoms of GERD persist or progress despite appropriate medical therapy. Inappropriate use of upper endoscopy does not improve the health of patients, exposes them to preventable harms and lead to unnecessary interventions and result in unnecessary costs with no benefit. Aim: To assess the findings at upper endoscopy performed in patients under the age of 50 presenting with GERD without alarm symptoms. Method: A multicentre, retrospective analysis in a large London NHS Foundation Hospital (UK) was performed. All patients endoscoped for reflux symptoms alone were found to have Barrett’s (7%). 627 of the 1772 patients were under the age of 50 at time of endoscopy. Out of the 627 patients under the age of 50, 23 (5.6%) patients were identified as having Barrett’s at the time of endoscopy but histologically proven in only 13 (2%) the others were shown to have reflux esophagitis only. No patients were found to have cancer of the oesophagus or stomach. Of the 13 patients with proven Barrett’s, 4 patients had a length longer than 3 cm with a maximum length of 6cm. All other patients had short segments of Barrett’s (less than 3 cm) and none had evidence of dysplasia or malignancy. Conclusions: The role of endoscopy in patients under the age of 50 with symptoms of GERD only seems to be an inappropriate first line investigation. In our case series only 2% patients endoscoped under the age of 50 were yield. However, the quality of SB visualization after immediate duodenal delivery is not known. Our aim was to compare the quality of SB visualization after immediate delivery to the standard procedure (postponed SBCE ingestion after oral preparation). Patients and Methods: This was a prospective case-control study. After sample size calculation, 48 patients with OGIB were selected. Patients with active hemorrhage on SBCE were excluded, as bowel visualization would likely be altered downstream the bleeding site. Twenty-two cases (group 1) were included and matched to 22 controls (group 2) according to gender, age and type of bleeding (overt/occult). Patients in group 1 received a split 1L PEG frames before SBCE was delivered into the duodenum immediately after normal colonoscopy. Patients in group 2 received 1L of PEG the day before ingesting the SBCE, distant from the initial bidirectional endoscopies. A validated Computed Assessment of Cleansing score (CAC), based on the automated calculation of the ratio of red and green pixels (R/V) of each frame of each video sequence of the SB, was used for objective comparison. Results: A preliminary study confirmed good correlations between reddish frames (with CAC<1.35) and those deemed dirty. In group 1, all SBCE were successfully delivered with no delay after initial videocapsule, whatever the type of bleeding. In group 2, the average timespan between initial endoscopy and SBCE was 4 days for overt bleeding, and 65 days for occult bleeding. There were no significant differences between the 2 groups (p=0.25). There was no significant difference between the 2 groups in terms of SB transit time (p = 0.53), total number of SB frames (p=0.21), and rates of complete SB examination. Conclusion: According to an objective CAC score, SBCE delivery into the duodenum in OGIB, immediately after normal bidirectional endoscopies, allows a SB quality of visualization not different to that of the delayed standard procedure, with virtually no delay and no additional preparation for patients. The potential of this approach to increase the diagnostic yield of SBCE in OGIB, and to decrease the length of hospital stay, should be evaluated.
Tu1055
Reprocessing of Single-Use Endoscopic Band Ligation Devices: A Clinical Pilot Study
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Background: Endoscopic band ligation devices (EBLDs) are marketed for single-use in the United States, but are expensive and often re-used after disinfection in resource-limited regions of the world. The efficacy of EBLD disinfection has not been investigated. Aims: To determine changes in EBLD kit bioburden after manual cleaning and high-level disinfection (HLD). Methods: Dirty EBLD kits (S Saeed Multi-Band Ligator, Cook Medical, Bloomington, IN) were recovered from endoscopes immediately after completion of varical band ligation, and prior to pre-cleaning. Remaining bands were fired and discarded. Components of each kit (cap, string, handle, and handle lumen) were separately swabbed and sampled for adenosine triphosphate (ATP), an indirect marker of cell life, with an automated monitor (Clean Trace, 3M, St. Paul, MN). ATP is expressed in relative light units (RLUs) and was measured at three stages of reprocessing: before manual cleaning, after manual cleaning, and after HLD in an automated endoscope disinfector. Quantitative culture of the components was then performed using a broth extraction technique followed by gram stain of any growth. Results: Eighteen dirty EBLD kits were studied, including 14 that underwent HLD, three that were autoclaved after manual cleaning, and a dirty control that was not cleaned. As shown in Table 1, mean ATP counts for the EBLD kit parts decreased between 50-fold and 500-fold after manual cleaning (p<0.05), but HLD resulted in an additional and statistically significant decrease in mean ATP counts for the string only. Mean ATP counts after HLD were higher for disinfected kits than for a clean control kit (24 vs. 8 RLUs for the cap, 200 vs. 2 RLUs for the handle, 337 vs. 2 RLUs for the lumen, and 69 vs. 2 RLUs for the string). Among the 14 disinfected kits, cultures of all caps were negative, but 2 strings and 4 handles grew one microbial colony each, including 2 gram-negative bacilli, 2 gram-positive spore-forming bacilli, 1 gram positive coccus, and 1 mold. A non-infected dirty control kit grew >200 colonies from each kit component. Two of 5 autoclaved strings and no autoclaved handles also grew one microbial colony including 2 gram-positive cocci and 1 mold. There was no difference in mean post-HLD ATP counts betweenkit components that did or did not yield microbial growth (82.5 vs. 102.5 RLUs). Conclusions: Reprocessing of EBLDs results in significant reduction of bioburden, with residual bacterial contamination of some kit strings and handles. There is poor correlation between ATP results and cultures obtained after disinfection. The clinical significance of residual EBLD kit contamination is uncertain.

Tu1056
Radiation Safety and Quality During Endoscopic Retrograde Cholangiopancreatography (ERCP) - Cumulative Dose: Complexity (CD/CS) Ratio a Potential Metric
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Background: Epidemiological evidence has linked exposure to low-dose, ionizing radiation with medical imaging and development of cancers. A growing body of evidence demonstrates that fluoroscopy exposure to patients and staff during ERCP varies widely, and the goal of fluoroscopy use should be “as low as reasonably achievable” (ALARA). Our aim was to evaluate radiation dose and fluoroscopic time (FT) as potential quality measure for ERCP. Method: We performed a retrospective review of fluoroscopy exposure during ERCP as performed within the Ochsner Health System (OHS) at two teaching hospitals. Electronic medical records (EMR) of 969 patients who underwent ERCP during the period of July 1, 2013 to June 30, 2014 were reviewed under an IRB approved protocol. Demographics, procedure variables and available dose reports were obtained and complexity score (CS) calculated. We evaluated for level of operator experience and other variables. Pearson Correlation Coefficient (r) and T test were used to analyze data. Results: The median Cumulative Dose (CD) to a patient was 76.75 Sv. The median Effective Dose (ED) was 0.147512 Sv. The dose report was generated at only one facility. FT did not correlate with type of ERCP intervention, p=0.76, or with complexity score Rho=0.09, p=0.01. FT was different between low volume providers (LVP) and high volume providers (HVP), p=0.00016. There was no difference between providers as regards CD, p=0.11, there was significant difference between LVP vs HVP in CD/CS ratio, p=0.00043. Conclusions: Differences in radiation dose and exposure among providers performing ERCP vary significantly when low volume providers are compared to high volume providers. We propose that the CD/CS ratio could potentially be an ERCP quality index. Dose reporting helps improve ERCP radiation safety.

Table 1. ATP levels of EBLD components during reprocessing, and terminal culture and gram stain results

<table>
<thead>
<tr>
<th>EBLD Component</th>
<th>Pre-manual cleaning (RLUs) (mean ± SD)</th>
<th>Post-manual cleaning (RLUs) (mean ± SD)</th>
<th>Post-high-level-disinfection (RLUs) (mean ± SD)</th>
<th>Total aerobic microbial count (CFU/mL)</th>
<th>P-value comparing pre- and post-manual cleaning</th>
<th>P-value comparing post-manual cleaning and HLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cap</td>
<td>375393.4 ± 192484</td>
<td>601 ± 1841</td>
<td>24 ± 15</td>
<td>13/13 caps &lt;1 CFU/mL</td>
<td>N/A</td>
<td>0.00002</td>
</tr>
<tr>
<td>Handle</td>
<td>45682 ± 37186</td>
<td>903 ± 2722</td>
<td>200 ± 303</td>
<td>10/14 handles &lt;1 CFU/mL</td>
<td>Handle #1, GNB</td>
<td>0.0007</td>
</tr>
<tr>
<td>Handle lumen</td>
<td>1726 ± 2475</td>
<td>117 ± 160</td>
<td>337 ± 1088</td>
<td>N/A</td>
<td>Handle #6, GNB</td>
<td>0.03</td>
</tr>
<tr>
<td>String</td>
<td>117848 ± 14435</td>
<td>233 ± 217</td>
<td>69 ± 91</td>
<td>N/A</td>
<td>Handle #7, GNB</td>
<td>0.009</td>
</tr>
</tbody>
</table>

Tu1057
DuodenoScope Microbiological Monitoring: May We Reduce Gram Negative Infection Following ERCP?
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Background: Outbreaks of bacterial infection associated with endoscopes are often attributed to improper reproces sed endoscopes. Herein we report the results of our investigation and the process improvements that we developed to contain the outbreak. Methods: Our institution approved and implemented a policy about microbial control sampling including all endoscopes available, according to personal microbio logical control Committee (ICC), Chief of GI LAB. Following scope reprocess ing, the endoscope nurse together with a biologist, inserted aseptically a culture broth through the endoscope operative channel. The broth was then collected in a sterile cup and examined at the microbiology department. All endoscopes underwent this process every six months. Concerning endoscope reprocessing, since 2015 all the endoscopes were processed through two automatic washer disinfectors.