removal for small polyps (5 mm to 10 mm). Endoscopic mucosal resection (EMR) or endoscopic submucosal dissection (ESD) is used for larger polyps (>10 mm). Submucosal injection during EMR or ESD is helpful to prevent complications. However, the effect of submucosal injection in cold snare polypectomy for small polyps is not clear. The aim of this study is to evaluate the risks of bleeding in cold snare polypectomy for small polyps and to investigate the effect of submucosal injection. Methods: Between September 2018 and April 2019, 100 consecutive small colorectal polyps (5~10 mm) were identified in 58 patients. The first 50 consecutive polyps were removed by cold snare polypectomy with submucosal injection and the remaining 50 polyps were removed without submucosal injection. Demographic data, endoscopic finding, procedure time, complication rate, and pathology data were collected. Results: There were 8 patients (13.8%) with post procedure bleeding (6 immediate bleeding, 1 delayed bleeding, and 1 immediate & delayed bleeding), but no one with perforation. There were no differences in the rate of immediate or delayed bleeding between no injection and injection groups. In multivariate analysis, anticoagulant showed significant increased risk of bleeding (OR=77.534, 95% CI 5.049-1190.545). Conclusions: Cold snare polypectomy for small polyps is a relatively safe procedure. However, patients who take anticoagulant may have increased risk of bleeding. Submucosal injection did not showed preventive effect of bleeding.

Tu1058

ASSOCIATION BETWEEN ATTENDING ENDOSCOPISTS' EXPERIENCE AND COMPLICATION RATES FOR ALL ENDOSCOPIC PROCEDURES: A 10-YEAR LONGITUDINAL STUDY

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Background: Hospital systems and third party payers are interested in the frequency of adverse events as a quality indicator. Prior studies have demonstrated patient and procedure-related factors associated with complication rates for all endoscopic procedures, but there is limited information on the effect of endoscopist's experience on complication rates. Aim: To determine the association between attending endoscopists' experience and complication rates for all endoscopic procedures. Methods: This is a retrospective longitudinal study analyzing the complication database of a large practice group from January 1, 2007 to December 2016. Major complications (unexpected admissions or surgery, prolonged hospitalizations, deaths) are self-reported into our database that is managed by a nurse. Procedures were performed in hospitals (tertiary and community) and ambulatory surgery centers. Endoscopist experience is defined as the period from year of completing gastroenterology fellowship to when the complication occurred. Results: There were 163,591 endoscopic procedures performed by 13 endoscopists during the study period. The median age of patients was 58 years. The endoscopic procedures were colonoscopy (n=111), esophagogastroduodenoscopy (EGD) (n=50), and endoscopic retrograde cholangiopancreatography (ERCP) (n=66). There were a total of 213 complications (perforations, n=71; bleeding, n= 75; post-ERCP pancreatitis, n= 42). The median experience of endoscopists at the time of complications was 14 years (range: 1 - 24 years). When comparing endoscopists with less experience (1-10 years) with more experienced endoscopists (>10 years), a t-test shows that the more experienced endoscopists had a lower median complication rate (0.13% vs 0.27%, p=0.071). Using linear regression modeling, there was significant inverse relationship between endoscopists' experience and complication rates (Figure 1), with a mean decrease of 0.091 percent per 1000 procedures performed (p=0.015). Limitations: Potential under-reporting of complications from self-reporting; no risk-adjustment in our preliminary analysis; some ERCPs performed with advanced endoscopy fellows. Conclusions: In our preliminary analysis of a large database, more experienced physicians in general have a lower risk for complications over a span of 25 years, although there was variation in performance. Future studies should focus on determining the likelihood that variation in these rare events will be detected.

Relationship between complication rate and MD experience
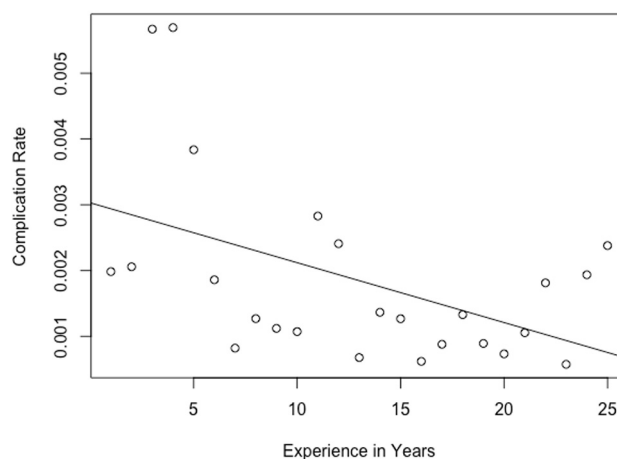
Tu1059

USING SIMULATION TO ENSURE BASIC COMPETENCE IN GASTROSCOPY

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Background: Esophagogastroduodenoscopy (EGD) is a commonly used procedure for diagnostic, treatment, or retrieval in the upper gastrointestinal tract. Operator competencies are essential for EGD quality, but no reliable test has been validated. Aim: To develop and gather validity evidence for a simulation-based test and establish a pass/fail score in learning EGD. Method: An expert panel in EGD and simulation evaluated the content of the Simbionix GI-mentor II simulator. Consensus reached on a test program including an intro-case, case 1 with a hiatal hernia and an esophageal diverticulum, and case 2 with a fundus tumor followed by the same EndoBubble case (popping 20 balloons in a pipe with an endoscope) repeated 3 times. A test was developed on an OGI CLA 4 phantom to test anatomical knowledge, technical skills with handling of forceps and retrieval of foreign bodies (a plastic pearl and a suture). Cases were divided into a diagnostic part including the two virtual reality cases and an examination of the phantom with identification of a total number of 45 landmarks and 3 pathologies to test ability to identify anatomical landmarks and pathologies; as well as a technical skills part with evaluation of the EndoBubble cases and the retrieval tests. A supervisor measured a multitude of parameters including: 1) total time for each test, 2) time to remove foreign bodies, 3) visualization electronically registered by the simulator, 4) wall hits and numbers of balloons popped in the EndoBubble cases. We included 15 novices (medical students): N, 10 intermediates (endoscopy-assisting nurses): I, and 11 experienced (gastroenterologists >500 self-performed EGDs): E. The Contrasting Groups' method was used to establish a test with a pass/fail score. Results: Mean total time for the diagnostic part were [minutes] N: 15.7±1.8, I: 11.3±1.0, and E: 7.0±1.5 (figure 1) and the technical skills part N: 7.9±2.5, I: 8.9±1.3, E: 2.9±0.6. The total numbers of the diagnostic landmarks and pathology identification were N: 26±5, I: 41±4, E: 48±0. Visualization percent were in case 1: N: 74±5, I: 69±4, E: 65±4 and case 2: N: 86±4, I: 73±7, E: 77±8. Mean numbers of wall hits were: N: 1.6±1.1, I: 9.4±3.8, E: 0.4±0.3 and mean numbers of total popped balloons were: N: 19.9±0.2, I: 19.2±0.3, E: 19.8±0.3. A pass/fail standard score was established requiring the recognition of all landmarks and pathologies using a maximum time of 10.9 minutes in the diagnostic part (figure 2) and 4.6 minutes for the technical skills part. 10 experienced endoscopists passed all 3 requirements, while none of the novices or intermediates did. Conclusion: We established a practical test that can distinguish between participants with different competencies. This enables an objective and evidence-based approach for assessing competencies for trainees undergoing an educational program in learning EGD.