examining TICI score as the outcome, but higher TICI was associated with lower age ($P = 0.032$) and lack of complications ($P = 0.009$). Lower mRS was also correlated with an improvement in NIHSS ($P < 0.001$).

**Conclusions:** Lower TICI seen with increased age and complications, and lower mRS seen with improvement in NIHSS, are both expected correlations. However, aspiration vs. stent retriever did not significantly differ in revascularization or functional outcomes. An advantage of aspiration over both aspiration and stent retriever was seen, which is potentially explained by more complicated occlusions requiring use of both techniques. Aspiration vs. stent retriever, consistent with previous literature, demonstrated comparable results, and research should be continued on local cost efficacy.

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**Abstract No. 722**

**Disposable, single-use, digital endoscopes for percutaneous transhepatic cholangioscopy: technical success, advantages, and cost comparison**

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**Purpose:** Percutaneous transhepatic cholangioscopy (PTCS) is an emerging technique in IR, providing direct visualization of the biliary system for diagnosis and treatment, and favored in patients with altered anatomy prohibiting a peroral approach. In this study, single-use endoscopes were utilized for PTCS to assess for advantages as compared to traditional reusable endoscopes.

**Materials:** Sixteen contiguous PTCS procedures with lithotripsy were performed on 10 patients (50% male) with a mean age of 61.5 (range, 5-86) years, from January 2018 to January 2019 using either reusable ($n = 7$; Olympus URF-2 ureteroscope) or single-use endoscope ($n = 9$; Boston Scientific LithoVue ureteroscope). A second disposable endoscope (Verathon GlideScope BFlex bronchoscope) was piloted in one patient to assess feasibility. Device metrics, technical success, complications, and cost were compared. Technical success was defined as biliary system access, identification of pathology, and at least partial stone removal.

**Results:** Single-use endoscopy performed as well or better in several performance metrics compared to reusable endoscopy, including flexion, tip deflection, irrigation flow, and ease-of-use. Fluoroscopy times were similar between single-use (6.9 minutes) and reusable (12.8 minutes. $P = 0.15$) endoscopes. Video definition was equivalent for BFlex and URF-2 endoscopes, and inferior in the LithoVue endoscope (though sufficient for all aspects of the procedure). Technical success was 100% ($n = 9$) for single-use and 85.7% ($n = 6$) for reusable endoscopes. There were no major complications in the perioperative period for either endoscope type. Cost analysis demonstrated a significant decreased cost-per-case for single-use endoscopes (LithoVue: $\$1500$/case, BFlex: $\$295$/case) compared to reusable endoscope ($\$4934$/case). Differences in cost were primarily due to costs for repair.

**Conclusions:** For patients undergoing PTCS, disposable LithoVue endoscopes may provide a safe and effective alternative to reusable endoscopes, with the potential for cost savings. Single-use BFlex endoscopes provide cost savings with equivalent technical metrics including high video quality, though further investigation is needed to assess procedural effectiveness.

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**Abstract No. 723**

**Direct gastric puncture using fluoroscopy or cone-beam computed tomography for insufflation prior to gastrostomy tube placement: An alternative approach in patients unable to tolerate nasogastric intubation**

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**Purpose:** We evaluate the technical and clinical success, complications and feasibility of percutaneous gastric puncture in lieu of nasogastric intubation utilizing either fluoroscopic or cone-beam CT guidance, followed by gastric insufflation and balloon assisted gastrostomy (BAG) tube placement in patients who are unable to tolerate NG tube placement for gastric insufflation.

**Materials:** Twenty patients (12 M; mean age 64.7 years) who underwent G tube placement with the above-mentioned technique between June 2018 – Aug 2019 were identified. The tubes were placed by two board certified interventional radiologists (mean experience, 5.5 years). The technique involves direct puncture of the stomach using a 21-G needle under fluoroscopic guidance and gastric insufflation through the needle. Cone-beam CT was employed when the stomach was obscured behind bowel loops (25%). The BAG technique was utilized for placement of 18-22Fr G tube (Kimberly Clark MIC, Franklin, MA or Cook Entuitt, Monroe, IN). Chart review was performed to evaluate for technical and clinical success and major and minor complications as stated on the guidelines for GI access.

**Results:** The most common indications for G tube placement were oropharyngeal/esophageal tumors (50%) and neurologic disorders precluding swallowing such as Huntington’s disease, ALS, traumatic palsy (40%). Two tubes were placed for venting purposes due to malignant bowel obstructions. All patients had successful placement of G tubes (technical success 100%). Clinical success, as defined by enteral feeding/vent after 24 hours of the procedure without complications, was achieved in 19 patients (95%). One patient pulled the tube within 24 hours. One patient developed aspiration during the procedure (1/20; 5%). No tube dislodgment was reported in 60 days.

**Conclusions:** Direct image-guided gastric puncture and insufflation offers a safe and easy approach in patients who are unable to tolerate an NG tube for gastric insufflation during G tube placement.

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**Abstract No. 724**

**Retrospective comparison of noninvasive evaluation of liver fibrosis and portal hypertension utilizing ultrasound shear wave elastography and FibroTest technologies with liver biopsy**

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