Aims: Due to demographic transition, neurogenic dysphagia has become an increasingly common problem. For several years, patients suffering from neurogenic dysphagia often get caught between different clinical disciplines. This dilemma might be due to a lack of pathophysiological knowledge and an inability to directly visualize the esophageal phase of deglutition. In this study, we tried to implement a defined examination protocol for functional endoscopy in patients with neurogenic dysphagia. Methods: This prospective observational study was performed in a multidisciplinary setting. 31 consecutive patients with suspected neurogenic dysphagia were evaluated by transnasal access applying an ultrathin video endoscope. We applied a modified approach including standardized endoscopic positions to compare our findings with fibroptic endoscopic evaluation of swallowing (FEES) and high-resolution manometry. For functional endoscopy, unsedated patients were examined while ingesting food of different consistencies. Primary outcome measure was feasibility of functional endoscopy. Secondary outcome measures were adverse events, tolerability and pathologic endoscopic findings. Results: Functional endoscopy was successfully performed in all patients. No adverse events were recorded. Endoscopic findings correlated well with the clinical signs of the patients and the other diagnostic modalities. A variety of disorders were documented by functional endoscopy: Incomplete or delayed closure of the upper esophageal sphincter (in retroflex view), clearance disturbance of tubular esophagus, esophageal hyperperistalsis and hypocontractility. Conclusions: By interdisciplinary cooperation with additional assessment of the esophageal phase of deglutition using the innovative method of functional endoscopy, the diagnostic of neurogenic disorders including dysphagia may be tremendously improved leading to a better clinical understanding of complex dysfunctional patterns. To our best knowledge, this is the first study to show that a retroflex view of the ultrathin video endoscope within the esophagus may be safely performed. This complementary approach should be helpful to develop a new scoring system to grade severity level of dysphagia focused on the esophageal phase of deglutition.

Sa1940 UNAMBIGUOUS REAL-TIME SCORING OF BOWEL PREPARATION USING ARTIFICIAL INTELLIGENCE
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Adenoma detection rate (ADR) is a primary quality indicator for colonoscopy based on its inverse relationship with interval colorectal cancers. The quality of colonoscopy preparation, as determined by validated scoring systems, is directly related to ADR and is a determinant for timing of next colonoscopy. Among scoring systems, Boston Bowl Preparation Score (BBPS) has gained favor as it reflects an “achieved prep” after appropriate washing and aspiration. Yet, agreement between endoscopists is imperfect (kappa 0.74) and BBPS does not account for small segments within scored regions. Artificial intelligence using convolutional deep learning techniques trained on images has the potential to remove ambiguity of prep scoring, provide segmental precision, and provide real-time feedback during colonoscopy. Methods: Towards this goal, 3,843 colon images were scored by BBPS prep scoring, provide segmental precision, and provide real-time feedback during colonoscopy. This comprehensive approach should be helpful to develop a new scoring system to grade severity level of dysphagia focused on the esophageal phase of deglutition.

Sa1941 COMPARISON STUDY OF ANTI-REFLUX ENDOSCOPIC SURGERY(ARES) AND STRETTA PROCEDURE
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1CHA Bundang Medical Center, Seongnam-si, Korea (the Republic of); 2CHA Bundang Medical Center, Seongnam, Korea (the Republic of)Background/Endoscopy: The initial treatment option for gastroesophageal reflux disease (GERD) is anti-reflux medications such as proton pump inhibitors (PPI). But not all patients relive symptoms from drug therapy alone. There are two popular endoscopic treatment of medication refractory GERD : Anti-reflux endoscopic surgery (ARES) vs. Stretta procedure. This study aimed to compare the two endoscopic treatments in terms of clinical outcomes such as efficacy and complications for refractory GERD patients. Methods: From December 2015 to July 2017, a total of 106 patients diagnosed with refractory GERD were enrolled in ARES group. And from May 2016 to July 2017, 29 patients with refractory GERD were enrolled Stretta procedure group. We compared the efficacy using such parameters as GERD symptom score (GERD-Q score), impedance planimetry, 24hr pH monitoring, endoscopic manometry results. And short-term and long-term complications of two procedures are compared. Result: The GERD-Q score and 24hr pH monitoring were significantly improved in both groups. In ARES group, Mean post-treatment GERD-Q score was 7.5±1.2±0.6, compared to 10.87±±27 at pre-treatment. In Stretta procedure group, GERD-Q score was 8.87±±3.55, compared to 12.6±±3.81 at pre-treatment. No serious complications were occurred in both groups. But in ARES group, 6 patients undergo post-treatment strictures, and were treated with balloon dilatation and steroid injections. And 3 patients from ARES group has minor bleeding, successfully treated with argon plasma coagulation. Conclusion: Both ARES and Stretta are good alternative treatment options for refractory GERD patients rather than PPI therapy. Further study is needed to make better indication criteria for both procedures.

Sa1942 A HIGH-FREQUENCY GENERATOR FOR ENDOSCOPIC SUBMUCOSAL DISSECTION USING A SCISSORS-TYPE KNIFE FOR EARLY COLORECTAL NEOPLASMS
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Introduction: To reduce the risk of complications from endoscopic submucosal dissection (ESD) using conventional knives, such as dual, flush, or hook knife, we used a scissors-type knife (SB Knife Jr; Akita Sumitomo, Balderton, Japan) to keep an adequate dissection layer while preventing unexpected muscular layer injury. We reported that ESD performed with the SB Knife Jr is technically efficient and safe for treating early colorectal neoplasms, but the longer procedure time is a disadvantage of using the SB Knife. An appropriate high-frequency generator could make the procedure safer and more effective. Aims and Methods: We aimed to evaluate the efficacy and safety of ESD using SB Knife Jr with ESG-100 (Olympus, Tokyo, Japan) compared with VIO900D (ERBE, Tubingen, Germany) in the treatment of early colorectal neoplasms. The procedure was performed for 291 lesions in 271 patients (male-to-female ratio, 159:132; median age, 70 years) from October 2010 to March 2017. ESD using the SB Knife Jr was performed with VIO900D for 204 lesions (group VIO) and with ESG-100 for 87 lesions (group ESG). We evaluated the en bloc, complete, and curative resection rates, resected tumor size, procedure time, and complications. VIO900D was used in the endo-cut Q mode (effect 1, duration 1, and interval 1) for mucosal incision and submucosal dissection and soft coagulation mode (effect 5, 40 W) for hemostasis. ESG-100 was used in the pulse cut first mode (50 W) for mucosal incision and submucosal dissection and soft coagulation mode (40 W) for hemostasis. Results: The en bloc, complete, and curative resection rates were 98.0% (200/204), 93.6% (191/204), and 84.3% (172/204) in group VIO and 98.9% (86/87), 97.7% (85/87), and 91.9% (80/87) in group ESG (p = 0.05). The mean ratio of the resected specimen area was 7.5 (98/12±4 mm2 in group VIO and 8.5 mm2/min in group ESG). The mean procedure time was 80 min (range, 40–120 min) in group VIO and 65 min (range, 53–55 min) in group ESG. Therefore, the procedure time was significantly shorter in group ESG (p = 0.04). The mean diameter of the resected tumor was 34.9±15.6 mm in group VIO and 33±±15.7 mm in group ESG (p = 0.56). The median diameter of the resected tumor was 34.9±15.6 mm in group VIO and 33±±15.7 mm in group ESG (p = 0.56). The median procedure time was 80 min (range, 40–120 min) in group VIO and 65 min (range, 53–55 min) in group ESG.