A Novel Device, the Variable-Traction Spring, Is Easy and Safe to Use Patients Undergoing Endoscopic Submucosal Dissection for Gastric Tumors

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Purpose: We perform endoscopic submucosal dissection (ESD) with a good field of view using the variable-traction spring to apply appropriate countertraction during submucosal dissection. Methods: One end of the stainless-steel spring (spring length, 20 mm, spring diameter, 1.67 mm; wire diameter, 0.09 mm) is fitted with a polyurethane loop and the other end with a clip. An additional loop is fitted in the middle of the spring. Results: The spring is introduced into the stomach via the forceps channel. The spring device, with one end fixed to the edge of the lesion and the other end fixed to the contra-lateral gastric wall, provides countertraction during the ESD. The traction force is not appropriate, it can be manipulated by re-fixation using the additional loop. The submucosal layer is dissected under good visualization. (3) The tumor and spring are retrieved after the clip fixed to the contra-lateral gastric wall is released. Patients: After obtaining the patients’ informed consent, ESD with the novel device was performed on 4 male patients and 1 female patient between September and November 2009. Case 1. 71-y M, Mid, Great, Itc, tub1, 20x14mm. Case 2. 69-y F, Low, Gre, SMT, lipoma, 25x14mm. Case 3. 76-y M, Upper, Less, Ila, tub1, 17x15mm. Case 4. 67-y M, Upper, Post, Itc, tub1, 20x15mm. Case 5. 72-y M, Low, Post, Ila, tub1, 30x17mm. Results: In all 5 cases, the variable-traction spring allowed sufficient countertraction and direct visualization of the cutting line, and en bloc resection was successfully accomplished without complications. The resection area sizes were 48x35, 25x14, 35x30, 40x55, 62x32mm, respectively. The circumferential mucosa cutting times was 27.6min (36, 14, 23, 33, 32) and the submucosal dissection was 37.4min (36, 32, 27, 46, 46). The average hospital stay after the ESD was 7 days (7, 8, 7, 6, 7). Histopathological examination of the resected specimens revealed a submucous lipoma in case 2, submucosal (200mm) differentiated adenoscarcoma in case 5 and differentiated mucosal adenocarcinoma in the remaining three cases. None of the patients showed evidence of blood or lymphatic vessel invasion. Conclusions: The resection was curative in all the cases. The variable-traction spring provides sufficient countertraction for ESD. This novel device may be an easy-to-use and safe device for ESD.

M1519

Use Patients Undergoing Endoscopic Submucosal Dissection for Gastric Tumors

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M1520

Does FICE Improve Inter-Observer Agreement in Diagnosis of Erosive Esophagitis?

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Introduction: The diagnosis of gastroesophageal reflux disease (GERD) by endoscopy was usually diagnosed by presence of esophagitis. Several systems for endoscopic diagnosis of GERD were developed, Los Angeles classification was widely used so far. But, inter-observer and intra-observer variation was documented for esophagitis using Los Angeles classification. Fijinon Intelligent Color enhancement (FICE) system is a new dyeless imaging technique that enhances mucosal and vascular pattern. The aim of the study was to evaluate the inter-observer variation in the endoscopic scoring of esophagitis by using conventional endoscopy with and without FICE and to evaluate FICE could improve inter-observer agreement in diagnosis of erosive esophagitis. Materials and methods: Endoscopic images of 51 patients with GERD symptoms were obtained with conventional endoscopy and FICE system. Observers were divided into expert group (16 gastroenterologic specialist) and trainee group (fellowship, first year of specialty training in gastroenterology). GERD using Los Angeles classification was diagnosed with/without FICE. We calculated inter-observer k statistics to measure the consistency in interpretations. Results: Erosive esophagitis was diagnosed in 37/62(28.4%) by conventional endoscopy. The prevalence of grades A, B, C and D erosive esophagitis were 220 (16.6%), 102 (7.7%), 39 (2.9%) and 15 (1.1%), respectively. Erosive esophagitis using conventional endoscopy with FICE was increased from 37/62(28.4%) to 42/62 (32.1%). Grades A erosive esophagitis was increased from 220 (16.6%) to 291 (21.9%). Of them, 128 (43.9%) of images judged to show grades A esophagitis by conventional endoscopy was 0.51 and 0.42, respectively. The mean observer constancy in grading erosive esophagitis in expert group and trainee group, respectively was 0.86 (range 0.74-0.99) and 0.82 (range 0.72-0.99). LIMITATION: Sample size and single center study. CONCLUSIONS: Targeted biopsies are better than randomized biopsies to detect intestinal metaplasia in the stomach. There is no difference between narrow band imaging and chromoendoscopy both with magnification.