

Fibrin sealant for closure of mucosal penetration at the cardia during peroral endoscopic myotomy: A retrospective study at a single center.

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Abstract:

Aim To assess the efficacy and safety of fibrin sealant for closure of mucosal penetration at the cardia during peroral endoscopic myotomy (POEM). **METHODS** Twenty-four patients who underwent POEM and experienced mucosal injury of the cardia during the procedure were retrospectively identified. Of the 24 patients, 21 had mucosal penetration and 3 had only slight mucosal damage without penetration. The 21 patients with mucosal penetration received fibrin sealant for closure at the site of penetration. Penetration-related characteristics, treatment, and recovery were reviewed for all 21 patients to assess the efficacy and safety of fibrin sealant for closure of mucosal penetration at the cardia. Clinical data, including general characteristics, procedure-related parameters, Eckardt scores, lower esophageal sphincter pressures (LESP), and esophagogastroduodenoscopy (EGD) results, were analyzed to determine their influence on treatment success after mucosal penetration during POEM. **RESULTS** All 21 patients had a solitary mucosal penetration in the cardia (12 in esophageal region of the cardia, 9 in the stomach region of the cardia, and 1 in both the esophageal and stomach regions). Twelve had a hole-like penetration and 9 had a linear penetration. For those with a hole-like penetration, the mean size was 0.14 cm² (0.02-0.32 cm²). For those with a linear penetration, the median size was 0.37 cm (0.10-1.00 cm). Closure of the mucosal penetration using fibrin sealant was performed successfully in all 21 patients (two patients required 5 mL fibrin sealant, and the remaining 19 patients required 2.5 mL). Two patients had a nasogastric tube placed for five days after POEM; the remaining 19 patients were

kept fasting for 3 d. All 21 patients were discharged after a median of 5 d (range: 5-7 d) postoperatively. During a median 42 mo (range: 9-62 mo) follow-up, all 21 patients with a mucosal penetration successfully healed without the occurrence of infection, ulcer, or esophagitis. Furthermore, the median LESP decreased from 31.9 mmHg (range: 21.9-67.1 mmHg) preoperatively to 20.3 mmHg (range: 6.0-41.0 mmHg) postoperatively ($P < 0.05$). The median preoperative and postoperative Eckardt scores were 5.0 (range: 4-10) and 1.0 (range: 0-4), respectively ($P < 0.05$). Of the 21 patients with mucosal penetration, symptom remission, which is defined as a postoperative Eckardt score = 3, was achieved in 20 patients (95.2%) indicating that mucosal penetration did not influence the success of POEM treatment if closed successfully using fibrin sealant.

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