

Preventing esophageal stricture after endoscopic submucosal dissection: steroid injection and shielding with polyglycolic acid sheets and fibrin glue

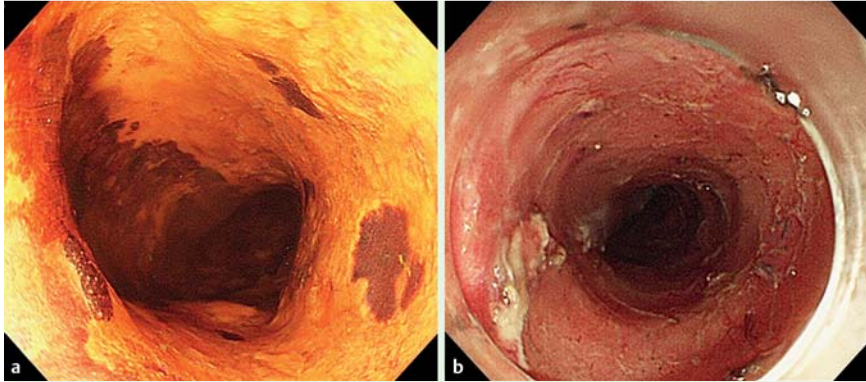


Fig. 1 **a** Iodine staining reveals a lesion extending to more than two-thirds of the esophageal circumference in an 82-year-old man with superficial squamous cell carcinoma. **b** Endoscopic submucosal dissection results in a completely circumferential resection.

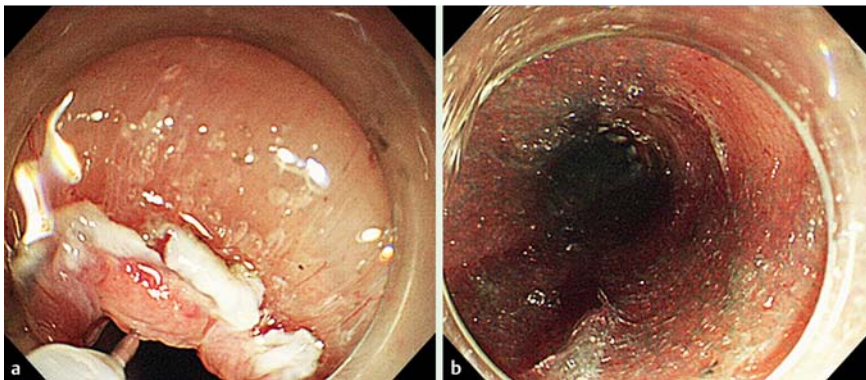


Fig. 2 **a** Triamcinolone is injected into the periphery of the mucosal defect. **b** Polyglycolic acid sheets with fibrin glue are applied to the entire mucosal defect.

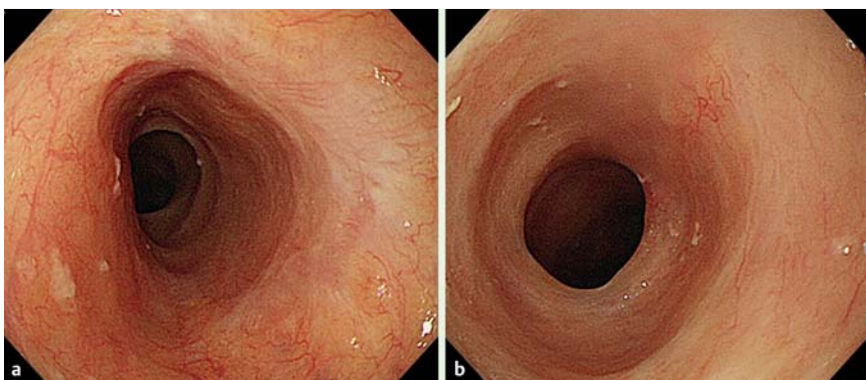


Fig. 3 **a, b** At endoscopic follow-up 84 days after endoscopic submucosal dissection, there is no sign of stricture.

Postoperative stricture after endoscopic submucosal dissection (ESD) for esophageal neoplasms is a major complication; Ono et al. have reported that stricture occurs in 90% of cases in which the circumferential extent of a lesion comprises more than two-thirds of the esophagus [1]. Several methods for preventing stricture, such as endoscopic balloon dilation (EBD), intralesional steroid injection, and oral steroid therapy, have previously been reported, but each method has its own drawbacks.

Sakaguchi et al. recently reported that a novel endoscopic method of shielding with polyglycolic acid (PGA) sheets and fibrin glue reduced the number of EBD sessions [2], but stricture still occurred at a rate of 37.5%. Here, we report a case of successful prevention of stricture following a large esophageal ESD with the combination of intralesional steroid injection and shielding with PGA sheets and fibrin glue.

An 82-year-old man with superficial squamous cell carcinoma in the mid esophagus (Fig. 1a) was admitted to our hospital. ESD was performed successfully (histopathological results: 0-IIb, 55×43 mm, pT1a-MM, INFb, ly0, v0, HMX, VMO), but a circumferential resection could not be avoided (Fig. 1b). Immediately after ESD, we injected a total of 40 mg of triamcinolone (Kenacort; Bristol-Meyers Squibb, Tokyo, Japan) into the periphery of the mucosal defect, as described in the literature [3] (Fig. 2a). Then, we applied PGA sheets (Neoveil; Gunze Co., Kyoto, Japan) and fibrin glue (Beriplast P Combi-Set; CSL Behring Pharma, Tokyo, Japan) by the clip-and-pull method [4] (Fig. 2b).

The patient was discharged 6 days after ESD without any adverse event. Thereafter, he displayed no dysphagia in the outpatient setting, and follow-up with esophagogastroduodenoscopy 84 days after ESD revealed mucosal healing with only mild stenosis (Fig. 3a, Fig. 3b). During his post-ESD clinical course, no session of EBD was required.

Circumferential ESD alone invariably causes severe stricture [5]. The combination of intralesional steroid injection with the application of PGA sheets and fibrin glue may be effective for preventing stricture, even after circumferential esophageal ESD.

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References

- 1 Ono S, Fujishiro M, Niimi K et al. Predictors of postoperative stricture after esophageal endoscopic submucosal dissection for superficial squamous cell neoplasms. *Endoscopy* 2009; 41: 661–665
- 2 Sakaguchi Y, Tsuji Y, Ono S et al. Polyglycolic acid sheets with fibrin glue can prevent esophageal stricture after endoscopic submucosal dissection. *Endoscopy* 2015; 47: 336–340
- 3 Hanaoka N, Ishihara R, Takeuchi Y et al. Intralesional steroid injection to prevent stricture after endoscopic submucosal dissection for esophageal cancer: a controlled prospective study. *Endoscopy* 2012; 44: 1007–1011
- 4 Ono S, Tsuji Y, Fujishiro M et al. An effective technique for delivery of polyglycolic acid sheet after endoscopic submucosal dissection of the esophagus: the clip and pull method. *Endoscopy* 2014; 46 (Suppl. 01): E44–E45
- 5 Sato H, Inoue H, Kobayashi Y et al. Control of severe strictures after circumferential endoscopic submucosal dissection for esophageal carcinoma: oral steroid therapy with balloon dilation or balloon dilation alone. *Gastrointest Endosc* 2013; 78: 250–257

Bibliography

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