



Utility of a super-soft hood for esophageal endoscopic submucosal dissection below an esophageal stricture

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INTRODUCTION

Endoscopic submucosal dissection (ESD) for esophageal squamous cell carcinoma (ESCC) has been widely performed.¹ ESCC is frequently associated with head and neck cancer.² In patients with head and neck cancer, esophageal stricture because of radiation therapy sometimes occurs.³ For ESD for ESCC, a transparent hood is almost essential; however, in some cases, after radiation therapy for head and neck cancer, the hood or scope may not pass through the esophageal stricture. The super-soft hood (Space Adjuster; TOP, Tokyo, Japan) that adjusts to narrow spaces has recently become commercially available (Fig. 1).^{4,5} Here, we present the case of esophageal ESD below an esophageal stricture using the Space Adjuster (Video 1, available online at www.giejournal.org).

CASE PRESENTATION

The case was of a patient with ESCC below an esophageal stricture because of radiation therapy for hypopharyngeal cancer (Fig. 2). The stricture was located at the esophageal inlet (16 cm from incisors), and the lesion was located 24 to 27 cm from incisors. Lugol's iodine was used for chromoendoscopy to delineate the borders of the lesion. Lugol staining showed that the lesion was about 30 mm (Fig. 3). The patient received chemoradiation 14 years prior to ESD (total 70 Gy, cisplatin + 5-fluorouracil). Before ESD, no apparent local recurrence or lymph node/distant metastasis of hypopharyngeal and ESCC had been observed. Under these circumstances, this patient's ESCC was considered an indication for ESD. The patient received esophageal

ESD under general anesthesia. The patient did not undergo previous balloon dilation. We performed marking with an upper endoscopy (GIF-H290T; Olympus Medical Systems, Tokyo, Japan) and DualKnife J 1.5 mm (Olympus Medical Systems) without transparent hood. Unfortunately GIF-H290T with a normal transparent hood could not pass through the esophageal stricture. In contrast, it successfully passed through the esophageal stricture with the Space Adjuster without any laceration and bleeding. Submucosal injection was performed using hyaluronic acid (MucoUp; Boston Scientific Japan Co, Ltd, Tokyo, Japan). The lesion was completely resected with DualKnife J 1.5 mm. During ESD, the clip and line method was successfully enforced (Fig. 4). ESD was also performed using the Space Adjuster. Marking, mucosal incision, submucosal dissection, and hemostasis were powered by a high-frequency electro-surgical unit (VIO 3; ERBE Elektromedizin, Tübingen, Germany). A total of 100 mg of triamcinolone was injected in the remaining submucosa after ESD to avoid esophageal stricture (Fig. 5). After ESD, the patient was hospitalized for 4 days as initially planned without any adverse events. The pathological finding was squamous cell carcinoma, with an invasion depth of epithelium and negative horizontal and vertical margins, without lymphovascular invasion (Fig. 6). As curative resection was achieved, the patient received no additional therapy. An upper endoscopy 3 months after ESD showed no stricture of endoscopic resection or recurrence (Fig. 7). The patient has been followed for 1 year after ESD and has had no symptoms of stricture. The patient did not require balloon dilation and was able to tolerate a diet. During follow-up, no local recurrence or lymph node/distant metastasis of hypopharyngeal and ESCC was observed on a CT scan.

DISCUSSION

For the esophageal stricture, balloon dilatation may be performed. However, it sometimes needs to be enforced repeatedly,⁶ meaning it takes substantial time before performing ESD with esophageal stricture. A triamcinolone injection into the laceration after balloon dilatation may lower the frequency of balloon dilatation. However, the current evidence regarding triamcinolone injection after balloon dilatation is not sufficient enough to determine

Abbreviations: ESCC, esophageal squamous cell carcinoma; ESD, endoscopic submucosal dissection.

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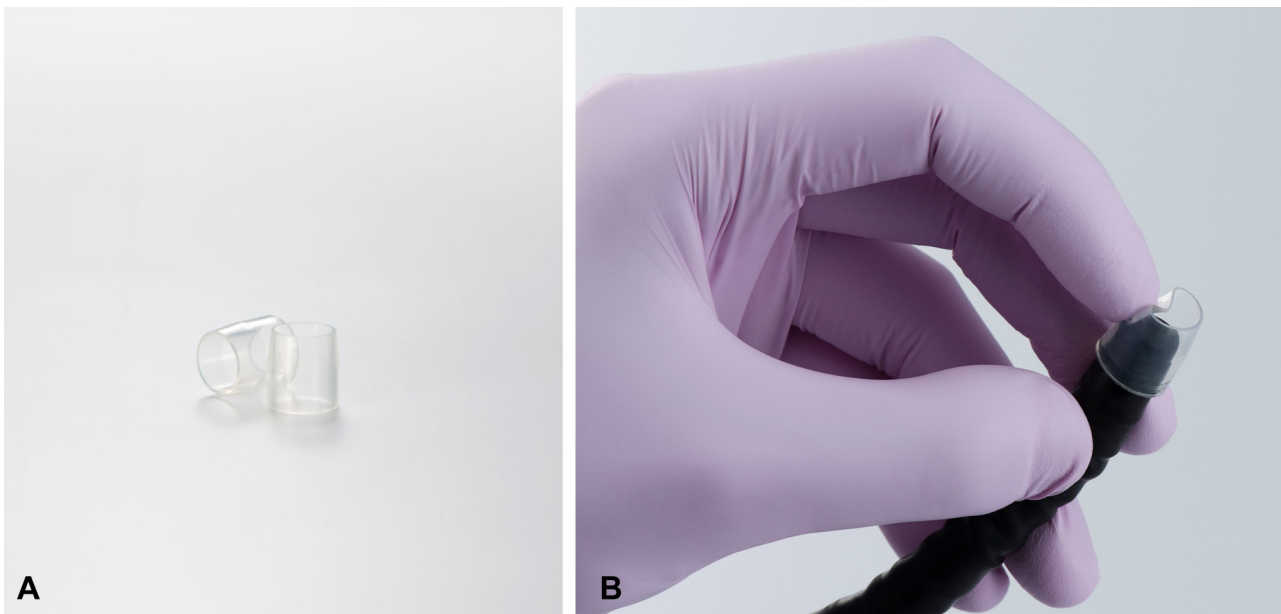


Figure 1. Image of the Space Adjuster (TOP, Tokyo, Japan). **A**, Space Adjuster is transparent straight hood. **B**, Space Adjuster is soft enough to adjust to narrow spaces.

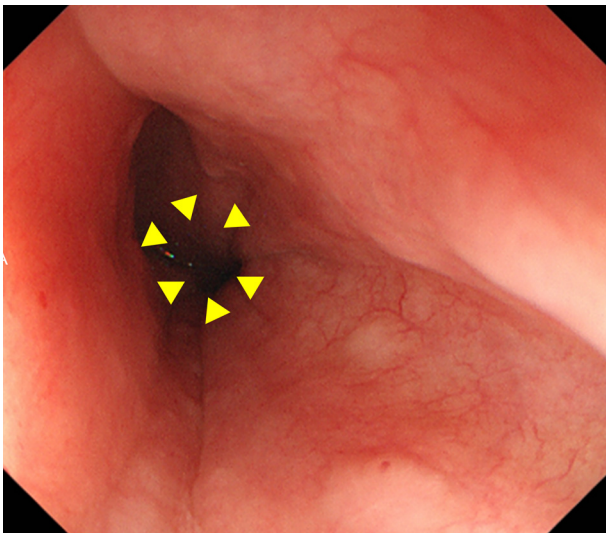


Figure 2. Esophageal stricture because of radiation therapy for hypopharyngeal cancer located at the oral side of the lesion (*yellow arrows* surround the esophageal stricture). A normal hood could not pass through the esophageal stricture.

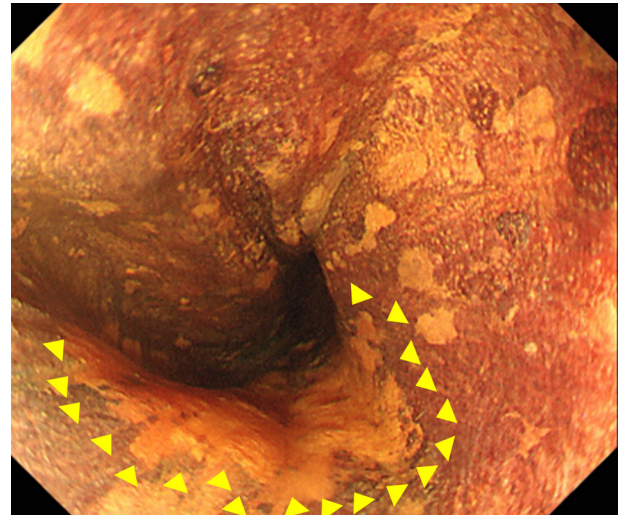


Figure 3. Image of esophageal squamous cell carcinoma with lugol staining (*yellow arrows* surround the esophageal squamous cell carcinoma). The lesion was 30 mm IIc.

its efficacy.⁶ The Space Adjuster fits into narrow lumens, has the potential to pass through moderate stenosis, and is a very simple method. The Space Adjuster is also helpful in that it can also be used for ESD. It takes only a few tens of seconds to determine if the Space Adjuster can pass through the esophageal stricture, and it can be easily tested before balloon dilatation is performed. Although it may not be possible to pass through a severe esophageal stricture such as a pinhole, it seems to be an effective

method that may replace balloon dilatation if the appropriate case is selected.

CONCLUSION

The Space Adjuster may be effective for esophageal ESD below an esophageal stricture after radiation therapy, and it may be considered as an effective way to pass through esophageal stricture.

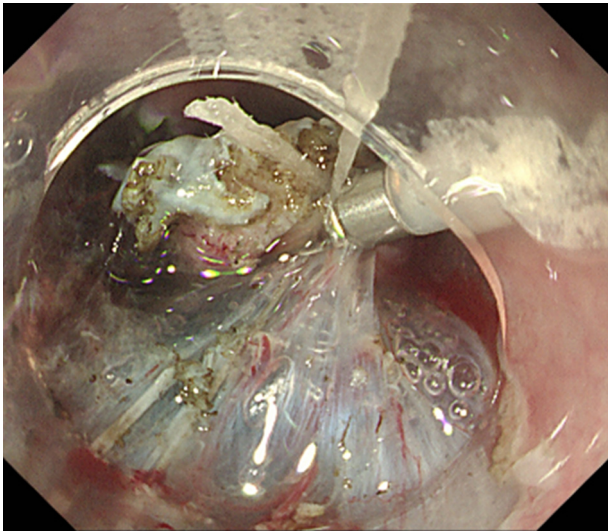


Figure 4. Image of the endoscopic submucosal dissection with the Space Adjuster (TOP, Tokyo, Japan). The clip and line method was successfully enforced.

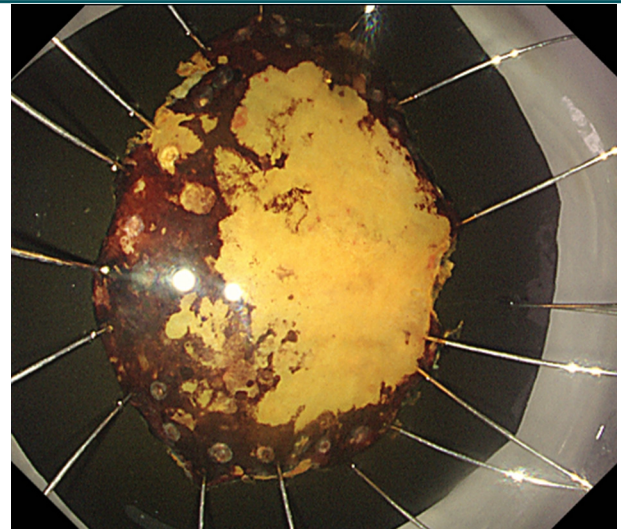


Figure 6. Resected specimen with lugol staining. Pathological findings showed squamous cell carcinoma, pT1a-epithelium, ly(-), v(-), pHM0, pVM0.

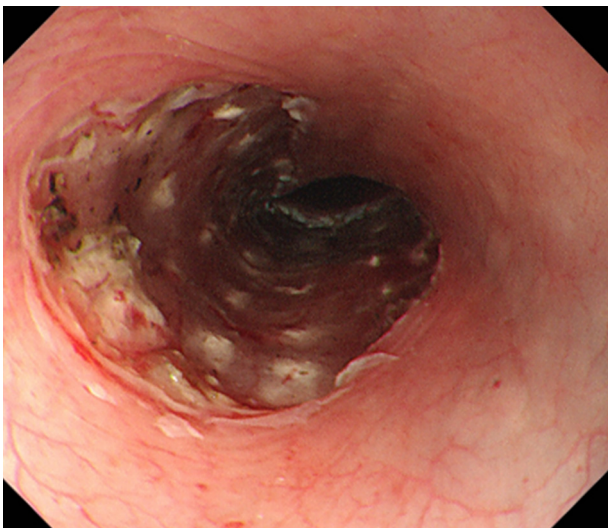


Figure 5. A total of 100 mg of triamcinolone acetonide was injected in the remaining submucosa after endoscopic submucosal dissection to avoid stricture.

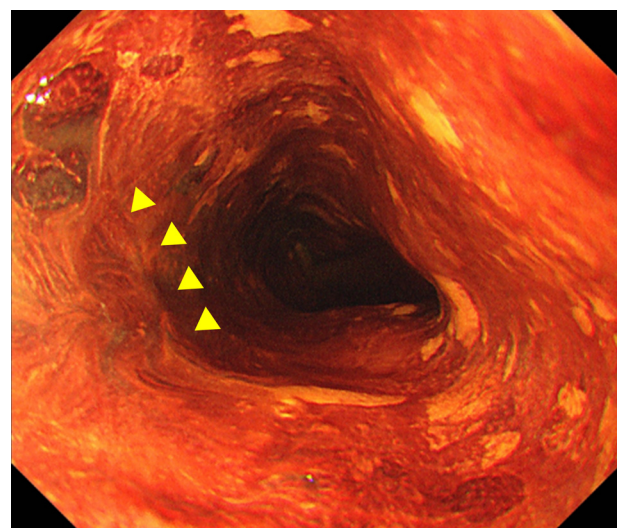


Figure 7. Three months after endoscopic submucosal dissection. There was no stricture of endoscopic resection or recurrence with lugol staining (yellow arrows indicate the scar).

DISCLOSURE

The authors disclosed no financial relationships.

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