Endoscopic submucosal dissection combined with underwater endoscopic mucosal resection for rapid treatment of multiple early esophageal cancers

A 70-year-old man was preoperatively diagnosed with early esophageal cancer, 30 cm from the incisors, and was planned to undergo endoscopic submucosal dissection (ESD). Routine ESD was successfully completed (▶ Fig. 1). On intraoperative narrow-band imaging (NBI), careful examination found brownish color changes at 20 cm, 21 cm, and 25 cm from the incisors, which were considered to be neoplastic lesions less than 1 cm in size. To prevent metachronous multiple esophageal cancers after ESD, we planned to remove these together. Three small lesions were each marked with four points by the dual knife with soft coagulation (effect 5, 80 W) (Erbe Elektromedizin, Tübingen, Germany) (▶ Fig. 2a–c). After submucosal injection of normal saline, a 1.5-cm snare was used for underwater endoscopic mucosal resection (UEMR) to rapidly remove the three lesions with an Endo Cut Q (effect 3, cut duration 2, cut interval 4) (▶ Video 1). The wounds were clean, without bleeding or perforation (▶ Fig. 2d–f). After stretching and fixing the fresh specimens on the foam plate, in each lesion all four marking points could be seen intact (▶ Fig. 2g–i). Postoperative pathological evaluation confirmed that the four lesions at 20 cm, 21 cm, 25 cm, and 30 cm from the incisors were, respectively, low-grade intraepithelial neoplasia (LGIN), pathological lamina propria invasion carcinoma (pT1a-LPM), HGIN, and pT1a-LPM with negative vertical and horizontal margins. The patient was re-examined by gastroscopy 3 months after operation and no residual lesions were found (▶ Fig. 3).

Esophageal squamous cell carcinoma is prone to forming multiple lesions, especially in long-term drinking patients. ESD resection of all lesions increases the operation time. We previously reported that UEMR enabled rapid resection of smaller early esophageal cancers [1].
Therefore, in this patient, we used ESD to remove the largest lesion, while UEMR was used to quickly remove the multiple smaller lesions.

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Competing interests

The authors declare that they have no conflict of interest.

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Video 1 Endoscopic resection of multiple early esophageal cancers by endoscopic submucosal dissection followed by underwater endoscopic mucosal resection.

Fig. 3 Endoscopic re-examination 3 months later. a Narrow-band imaging showed scar changes at 20 cm and 21 cm from the incisors; no brownish color changes were found. b Scar at 25 cm from the incisors. c Scar at 30 cm from the incisors.