A novel strategy for complete duodenal endoscopic submucosal dissection involving prophylactic defect closure with over-the-scope clips

Duodenal endoscopic submucosal dissection (ESD) remains controversial because of anatomical specificities, technical difficulties, and an unacceptably high rate of complications including delayed perforations and bleeding [1–3]. Accordingly, it is essential to establish a strategy to overcome these problems. A newly developed over-the-scope clip (OTSC; Ovesco Endoscopy, Tübingen, Germany) is now available, which has the advantages of strong grasping and persistent force, and can provide an outstanding outcome for secure defect closure in comparison with conventional hemoclips [4]. Here, we describe how duodenal ESD was safely completed in the setting of general anesthesia, using a safe cutting device and total prophylactic closure of the defect with OTSCs.

A 68-year-old man presented with a 30-mm flat elevated tumor in the second portion of the duodenum (Fig. 1a). While obtaining informed consent, a therapeutic strategy for this lesion was designed (Video 1).

Duodenal ESD was performed under general anesthesia to guarantee scope stability. When submucosal fibrosis and the muscle layer were encountered during submucosal dissection, a grasping-type scissors forceps (Clutch Cutter, Fujifilm, Japan) [5] was used to avoid the risk of perforation (Fig. 1b), leading to safe and complete resection. Next, the whole mucosal defect (maximum diameter 35 mm) (Fig. 1c) was completely closed using two OTSCs, with the aim of preventing delayed complications (Fig. 1d). A grasping forceps (TwinGasper; Ovesco Endoscopy) was useful to easily approximate the edges of the large defect. No complications occurred during the operation. Histological examination of the resected specimen (Fig. 1e) revealed curative resection.
section of an adenocarcinoma with adeno-
oma. Complete closure of the defect was
confirmed 3 months later (Fig. 1). The
patient had an excellent outcome with this
minimally invasive treatment and without
associated complications. We propose that
close duodenal ESD may be feasible using a
multidisciplinary strategy involving general
anesthesia, grasping scissors forceps, and OTSCs.

Endoscopy_UCTN_Code_TTT_1AO_2AG

Competing interests: None

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DOI http://dx.doi.org/
10.1055/s-0042-107596
Endoscopy 2016; 48: E190–E191
© Georg Thieme Verlag KG
Stuttgart · New York
ISSN 0013-726X

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