

A Case of Esophageal Leiomyoma Resected After Selective Circular Myotomy in Submucosal Tunneling Endoscopic Resection

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ABSTRACT

Submucosal tunneling endoscopic resection (STER) is one of the recommended treatment modalities in patients with subepithelial lesions (SEL). There is limited information in the literature about the applicability of STER in SEL originating from the deep muscularis propria (MP) layer. This report presents a case of SEL originating from the deep MP layer that underwent STER in which challenging dissection at the base of the lesion was facilitated by selective circular myotomy proximal to the lesion.

Keywords: Submucosal tunneling endoscopic resection, selective circular myotomy, subepithelial lesion

INTRODUCTION

Advances in endoscopy have increased the detection rate of subepithelial lesions (SEL) [1]. The majority of SELs are found in the upper gastrointestinal tract (most frequently found in the esophagus, esophagogastric junction, gastric cardiac) [2]. The treatment for symptomatic SEL is uncertain, and the main options are endoscopic resection [endoscopic mucosal resection, endoscopic submucosal excavation, endoscopic submucosal dissection (ESD), endoscopic full-thickness resection, and submucosal tunneling endoscopic resection (STER)] and surgery [3]. Among these methods, STER is a safe and less invasive approach in the treatment of SEL, especially that originating from the deep muscularis propria (MP) layer. When submucosal tunneling is feasible, STER is the safest technique because mucosal flap entry is easier to close than ESD or EFTR. The most suitable locations for the STER method are the middle or lower esophagus and gastric cardiac [3,4].

This report presents a case of SEL originating from the deep MP layer that underwent STER in which challenging dissection at the base of the lesion was facilitated by selective circular myotomy (SCM) proximal to the lesion.

CASE PRESENTATION

A 52-year-old female patient was admitted to our gastroenterology clinic with complaints of dysphagia for the past 10 months. Esophagogastroduodenoscopy showed a SEL

approximately 25 cm in length that caused partial esophageal obstruction on the anterior wall of the proximal esophagus (Figure 1). Endosonographic examination revealed a 28×20 mm hypoechoic SEL originating from the MP layer diameter. Informed consent was obtained from the patient after which STER was performed. A 3 mm flush knife was used for tunneling



Figure 1. Esophagogastroduodenoscopy showed a SEL approximately 25 cm in length that caused partial esophageal obstruction on the anterior wall of the proximal esophagus
SEL: Subepithelial lesion



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at 5 cm proximal to the SEL to access the lesion. Submucosal dissection was first performed to separate the lesion from the mucosal layer, but the lesion was found to originate from the deep MP, which complicated the dissection at the base of the lesion. Bleeding during blunt dissection at the base of the lesion using an insulation-tipped knife further blurred the already limited view at the base of the lesion. To locate the bleeding site, a 1 cm SCM was performed immediately proximal to the lesion, which made the base of the lesion visible. STER + proximal SCM not only made the bleeding site visible but also facilitated dissection (Figure 2). Following this procedure, which lasted approximately 28 min, SEL was resected en bloc (Figure 3). No complications occurred after the procedure. Histopathological examination confirmed leiomyoma diagnosis.

DISCUSSION

STER was inspired by peroral endoscopic myotomy for resection of upper gastrointestinal SEL, especially those arising from the MP layer [4]. This technique is highly effective (en bloc resection: 94.6%, complete resection: 97.5%) but its success may be influenced by tumor depth. Procedures for tumors originating from the deep MP layer may last longer, have lower rates of en bloc resection, and have an increased risk of complications [5]. The width of the tunneling space may facilitate submucosal dissection, but damage to the tumor capsule and bleeding may occur during the deep muscular dissection. Cai et al. [6] reported in a limited case series that STER is also a feasible, safe, and effective endoscopic technique to achieve curative resection for extraluminal SEL. In their case series, full-thickness myotomy was performed above the estimated location of the



Figure 2. One cm selective circular myotomy was performed immediately proximal to the SEL, which made the base of the lesion visible
SEL: Subepithelial lesion

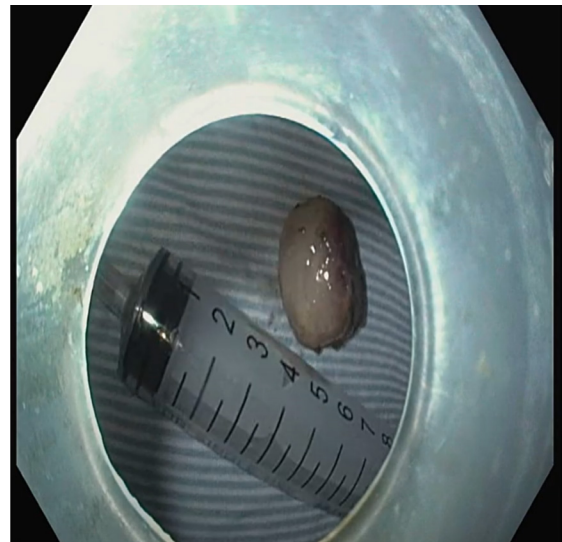


Figure 3. SEL was resected en bloc
SEL: Subepithelial lesion

extraluminal tumor [6]. In this study, since the SEL was located with the deep MP, proximal selective myotomy was sufficient. As in our case, when the source of bleeding cannot be found from the deep layer of the SEL or deep muscle dissection becomes difficult, STER + proximal SCM may be an effective and rescue method.

In our clinic, we have recently gained a greater experience of third-space endoscopic procedures. We have been using the STER procedure more frequently than before. As a result, we believe that using the STER + proximal SCM technique in SELs originating from the deep MP layer can facilitate dissection at the base of the lesion and reduce the risk of complications.

Ethics

Informed Consent: Informed consent was obtained.

Peer-review: Externally peer-reviewed.

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