



Endoscopic submucosal dissection in the right lateral position for early gastric cancer in the fornix

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INTRODUCTION

Endoscopic submucosal dissection (ESD) of early gastric cancer located in the fornix is challenging because the lesion is difficult to approach. The lesion in the fornix, especially on the greater curvature side or the anterior wall side, tends to

face vertically in the left lateral position (LLP) when in close proximity. Additionally, the lesion occasionally becomes immersed in gastric fluid and blood, which interferes with the procedure because of poor visibility (Fig. 1A). Despite the use of a multibending scope or clip traction techniques attempted previously,^{1,2} some technical difficulties remain.

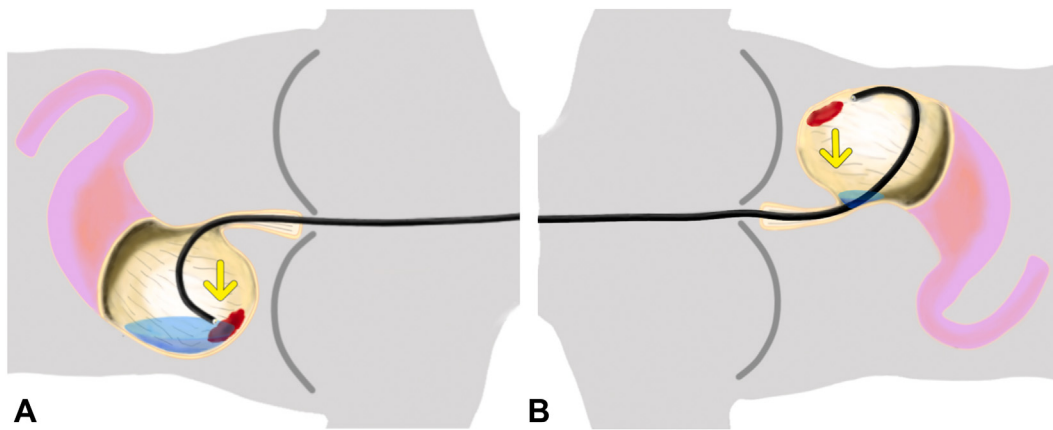


Figure 1. **A**, Schematic showing the direction of gravity (*yellow arrow*) and pooling of water in the left lateral position (LLP). Lesions in the gastric fornix (*red*) are difficult to approach and are occasionally submerged in water when in the LLP. **B**, Schematic showing the direction of gravity and pooling of water in the right lateral position (RLP). The endoscope can easily approach the fornix as the RLP counters gravity, which prevents the submersion of the lesion in water.

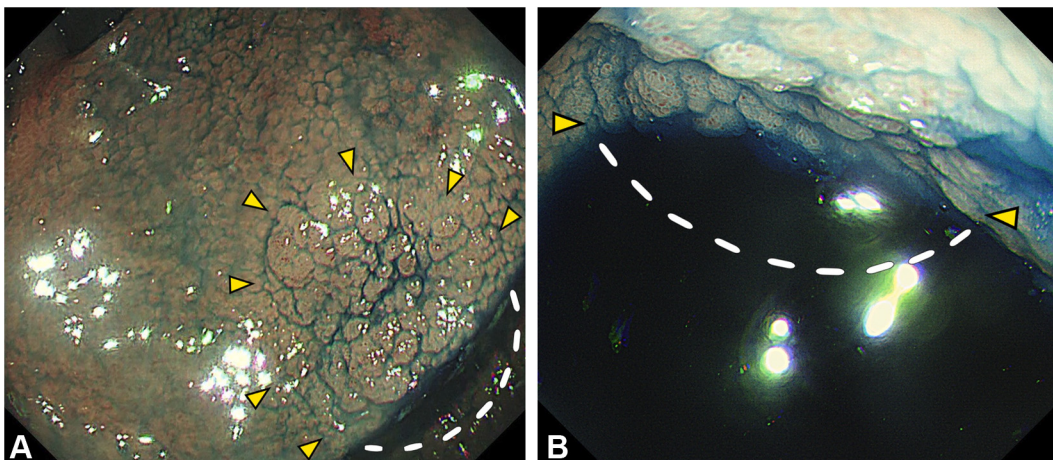


Figure 2. Endoscopic views (**A**, retroflex view; **B**, forward view) in the left lateral position showing the pull of gravity toward the fornix side and that a part of the lesion is submerged in water. *Yellow arrowheads* indicate the demarcation line of the lesion. *Dotted lines* indicate the lesion area submerged in water.

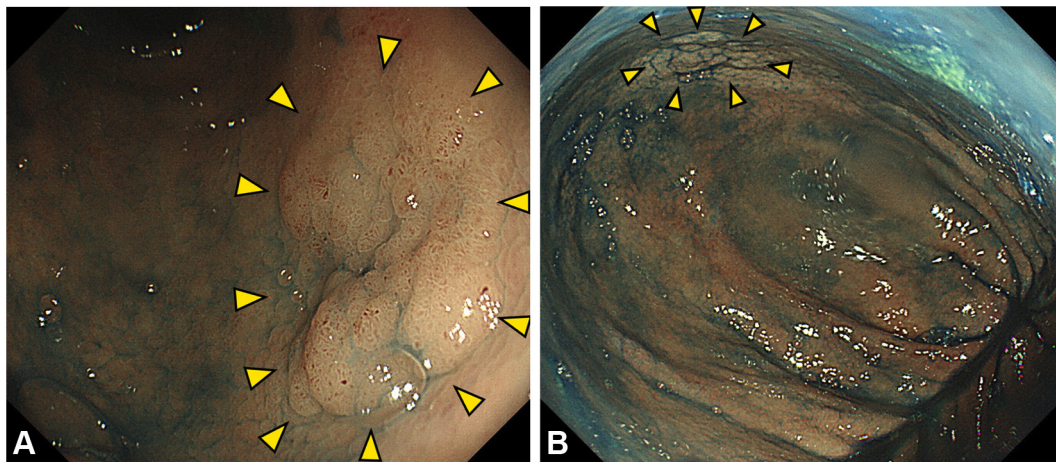


Figure 3. Endoscopic views (**A**, retroflex view; **B**, forward view) in the right lateral position showing the whole-circumferential demarcation line of the lesion (*yellow arrowheads*). Pooling of water is noted on the opposite side of the lesion.

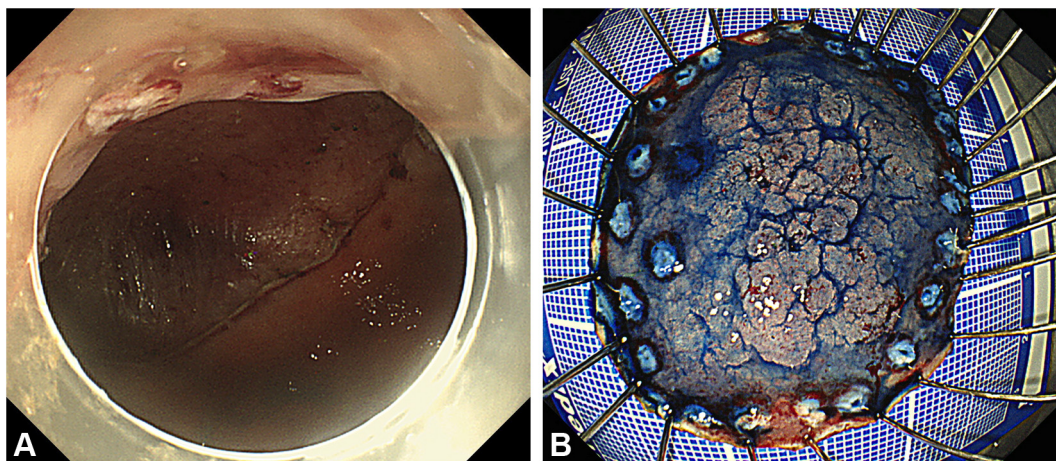


Figure 4. **A**, The site after complete endoscopic resection. **B**, Resected specimen.

The right lateral position (RLP) can alter the approach to the fornix (Fig. 1B). Herein, we present the case of a fornix ESD performed using the RLP.

CASE REPORT

An 89-year-old man with a history of pyloric gastrectomy underwent surveillance EGD, which revealed metachronous early gastric cancer in the fornix. Because the patient had a high risk of difficulty with airway management because of prior radiotherapy for pharyngeal cancer,³ ESD was performed with the patient under general anesthesia using an endoscope (GIF-Q260J; Olympus Co, Tokyo, Japan) with an ITknife2 (Olympus Co) and a FlushKnife BTS (Fujifilm Co, Tokyo, Japan). First, it was difficult to approach the lesion at the LLP unless the scope was pushed excessively, and thus an optimal intraoperative view could not be obtained. The suction of air facilitated

proximity to the lesion, but part of the lesion became submerged in water (Fig. 2A and B). Therefore, after removing the endoscope, the patient was moved to the RLP. The endoscopic view in the RLP showed that reversed gravity in this position spared the lesion from submersion (Fig. 3A and B). Furthermore, tangential proximity to the submucosal space and countertraction by gravity were attained until en bloc resection was achieved in 95 minutes without any intraoperative adverse events (Fig. 4A and B). Endoscopic closure of the post-ESD ulcer was not performed because intraoperative bleeding and thermal damage of the muscular layer were minimal. The patient started oral intake 2 days after ESD and was hospitalized for 6 days as initially planned. No postoperative adverse events occurred. Histopathological examination revealed a pT1a-M adenocarcinoma with negative horizontal and vertical margins and without lymphovascular invasion (Fig. 5). The wound site was completely scarred with no evidence of recurrence at the 3-month follow-up endoscopy (Fig. 6).

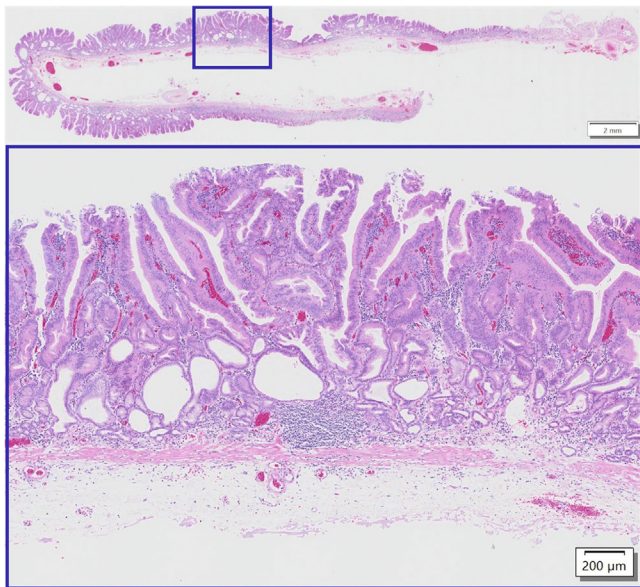


Figure 5. Histopathological diagnosis was 28- × 24-mm, pT1a-M, well-differentiated tubular adenocarcinoma with negative horizontal and vertical margins, without lymphovascular invasion.



Figure 6. The site on the follow-up endoscopic examination 3 months after endoscopic resection.

DISCUSSION

The RLP is useful for patients with situs inversus totalis (SIT),^{4,5} as it is similar to the LLP for patients without SIT. In addition, Mori et al⁶ described the usefulness of the RLP during ESD for gastric lesions located in the lower body in patients without SIT. They suggested a method for standing behind the patient's back using a special inverted overtube.⁶

In the present case, we did not prepare the special overtube and therefore performed face-to-face ESD standing



Figure 7. A picture captured during endoscopic submucosal dissection (ESD) performed at the right lateral position with the patient under general anesthesia. The operator performed ESD standing on the right side of the patient face-to-face.

on the right side of the patient using a normal mouthpiece (Fig. 7).

In general, fornix ESD in the LLP is technically challenging because it is difficult to make appropriate distances and angles between the electrosurgical knife and the mucosa. In the RLP, the knife was able to approach the lesion tangentially, which facilitated safer dissection. Although the Fowler position might be effective to avoid submersion of the lesion, we could take advantage of reverse-directed gravity, which not only spared the lesion from submersion but also offered good countertraction.

Although general anesthesia management is probably essential to avoid aspiration pneumonia, the RLP is considered a useful therapeutic option for safe and successful ESD, depending on the lesion location.

In summary, we demonstrated that the RLP facilitated fornix ESD by avoiding submersion, enhancing accessibility, and allowing favorable countertraction without the need for specialized equipment (Video 1, available online at www.giejournal.org).

DISCLOSURE

The authors disclosed no financial relationships.

Abbreviations: ESD, endoscopic submucosal dissection; LLP, left lateral position; RLP, right lateral position; SIT, situs inversus totalis.

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