



Hemostatic forceps used as a scissor-type knife in combination with the transanal-traction method for assisted endoscopic submucosal dissection in the area of the dentate line

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Endoscopic submucosal dissection (ESD) of rectal lesions extending to the dentate line is technically challenging. Eastern experts have demonstrated the feasibility of polyp resection in this region using a traditional ESD technique that makes use of the tip-cutting knife.¹ The scissor-type knife has also been demonstrated as an effective instrument to perform ESD on lesions in the anal region.² ESD by hydrodissection is an effective treatment for colorectal polyps.^{3,4} The water-jet hydrodissection technique also has been shown to be effective in overcoming various difficult situations.^{5,6} We performed a hydrodissection in immersion assisted by using hemostatic forceps as a scissor-type knife, in combination

with an outside traction method for removal of a polyp in this complex area of the anorectal junction.

Video 1 (available online at www.giejournal.org) shows the ESD of a flat polyp in the anorectal junction using the combination of hydrodissection in immersion, hemostatic forceps, and the transanal-traction method.

The patient was a 68-year-old woman who underwent colonoscopy for the investigation of abdominal pain, during which a 25-mm flat adenoma polyp was detected on the lower rectum around the dentate line area (**Fig. 1**). Therapeutic endoscopy was performed using the ERBEJET 2 hydrodissection system and a T-type hybrid knife (ERBE, Tübingen, Germany), a retroview colonoscope

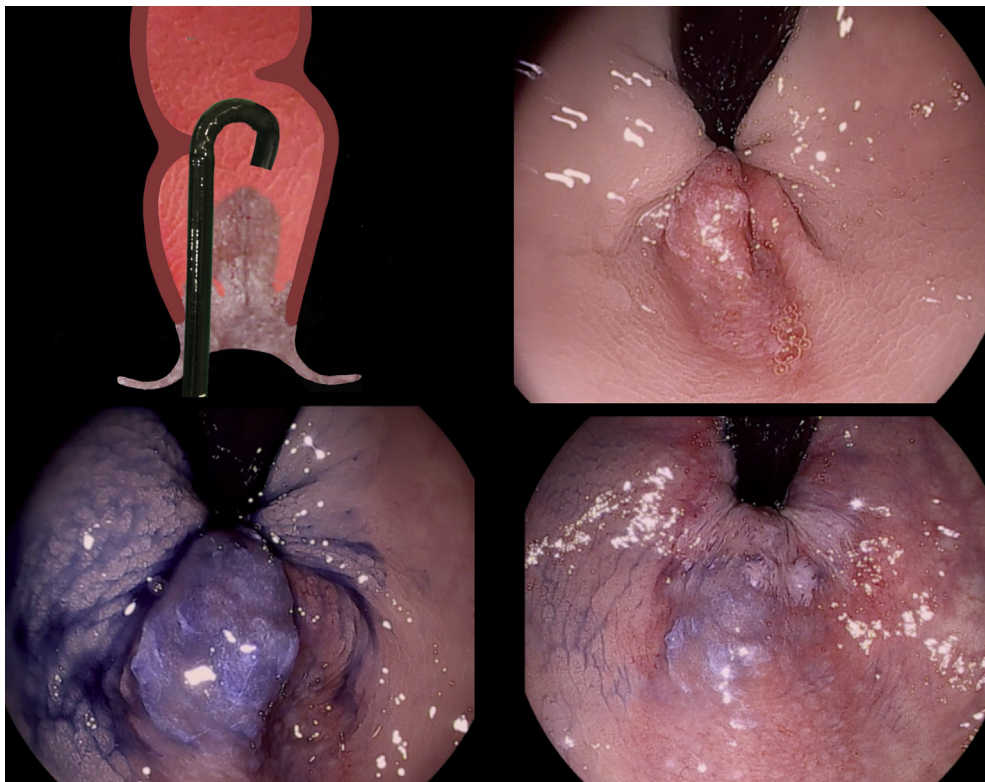


Figure 1. Endoscopic view in a retroflexed position showing a flat polyp (Paris classification, 2b) on the lower rectum around the dentate line area.

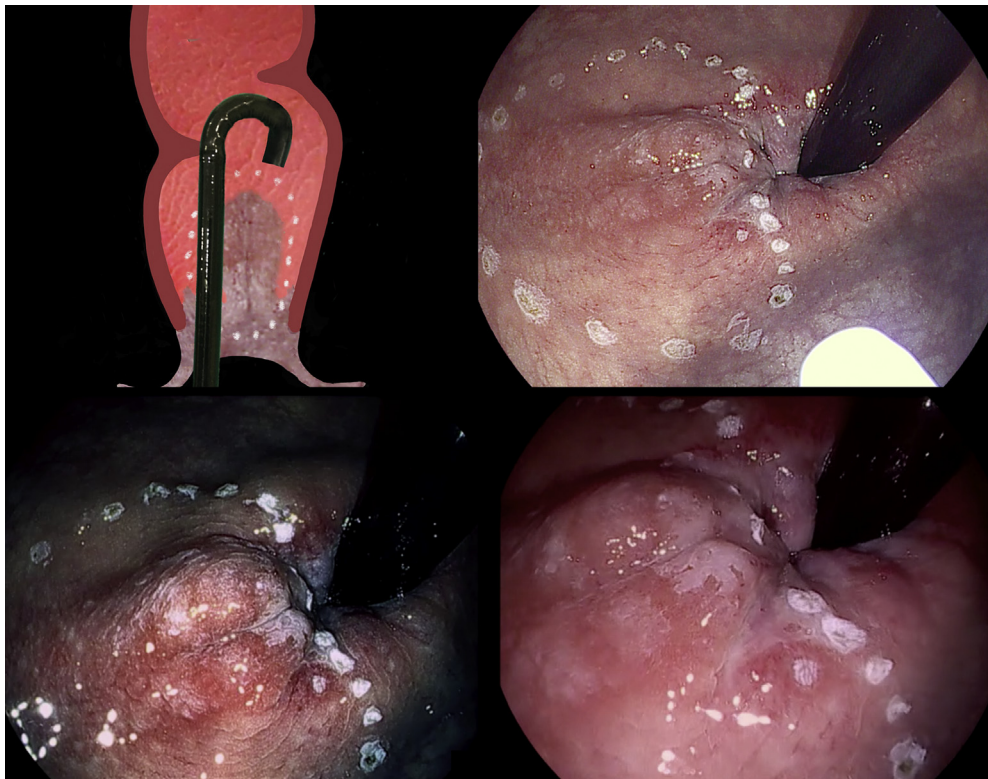


Figure 2. Endoscopic view in a retroflexed position showing thermocautery marks around the edge of the lesion.



Figure 3. Endoscopic view showing mucosal incision using a hybrid knife in the dentate line.

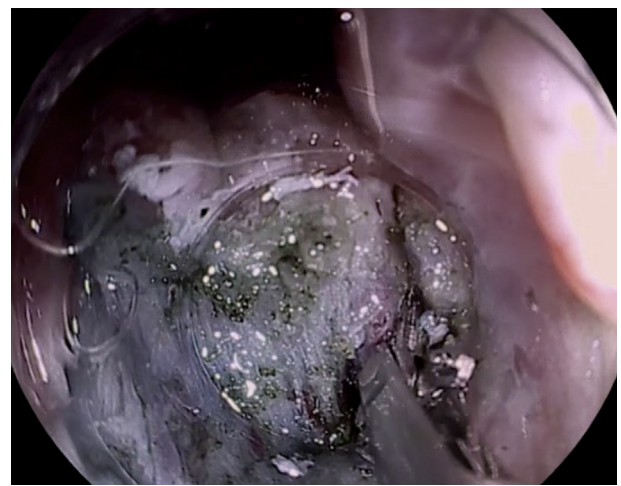


Figure 4. Endoscopic view showing coagulation of the larger vessels in advance, using hemostatic forceps in the area adjacent to the dentate line.

(Pentax, Tokyo, Japan), a distal attachment cap (Fujifilm, Tokyo, Japan), and hemostatic forceps (Coagrasper, Olympus, Tokyo, Japan).

After the polyp was carefully inspected, thermocautery marks were placed around the lesion edge, including the dentate line area (Fig. 2). After elevation of the submucosal layer with a solution containing saline and

indigo carmine delivered via hydrodissection needleless injection technology, we performed a C-shaped mucosal incision on the anal side of the lesion. We created a mucosal incision by using a hybrid knife in the dentate line to expose the submucosal plane (Fig. 3). The profuse fibrovascular submucosa in the anal canal can cause intraoperative bleeding; therefore,

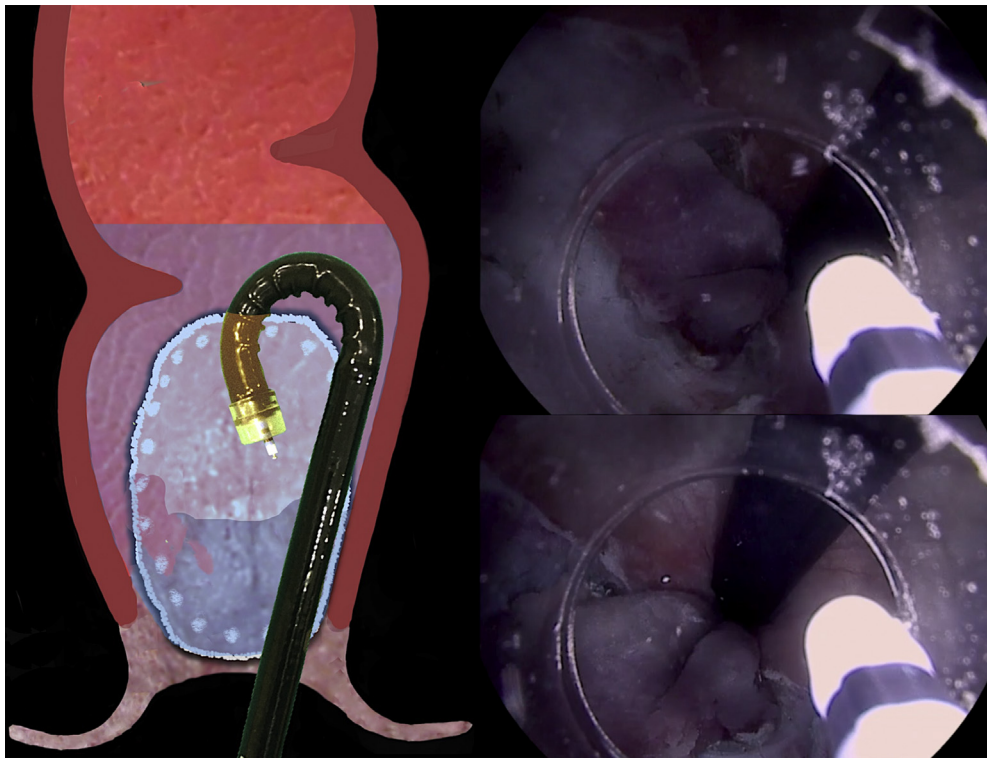


Figure 5. Endoscopic view showing dissection of the submucosa using a hybrid knife in probe mode on the oral side in a retroflexed position.

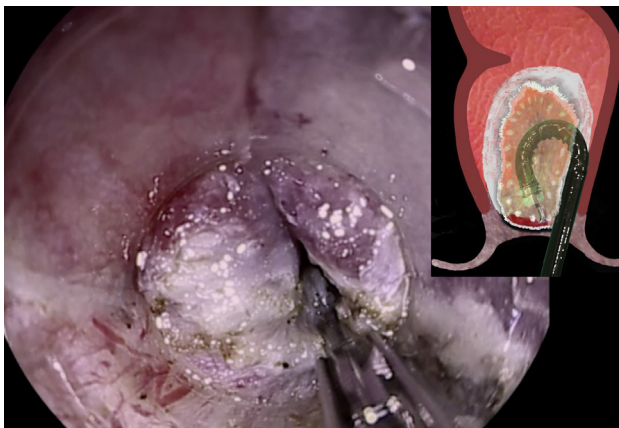


Figure 6. Endoscopic view showing dissection of the internal anal margin using the hemostatic forceps in a retroflexed position.

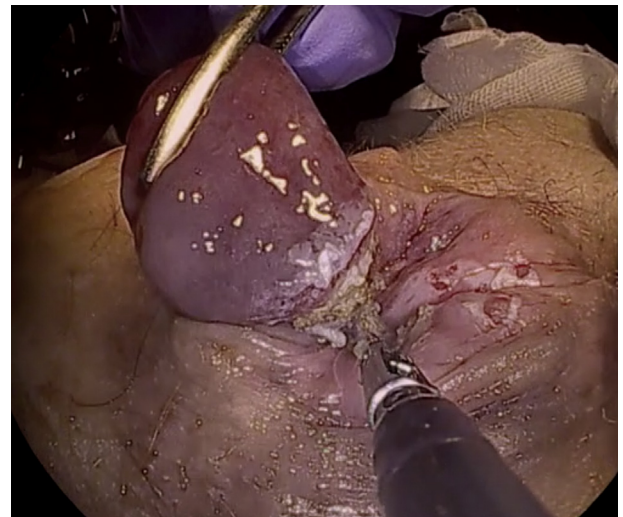


Figure 7. Endoscopic view showing dissection of the anal margin using an extracolonic approach using hemostatic forceps as a scissor-type knife in combination with a surgical grasper for traction.

we proactively coagulated the larger vessels in the area adjacent to the dentate line by using the hemostatic forceps (Fig. 4).

We continued to make a perimeter cut of the oral side in a retroflexed position (Fig. 5). We used the saline solution immersion technique to facilitate a clear endoscopic view and improve vessel identification. We dissected the submucosa by using a hybrid knife in probe mode⁷ while using the forced coagulation mode.

This was followed by dissection of the submucosa under the lesion to the area of the dentate line. At this point, we completed the dissection by using the hemostatic forceps with a combination of 2 electrosurgical modes: first, a coagulation pulse with hemostatic mode for preventive hemostasis, followed by a cutting knife

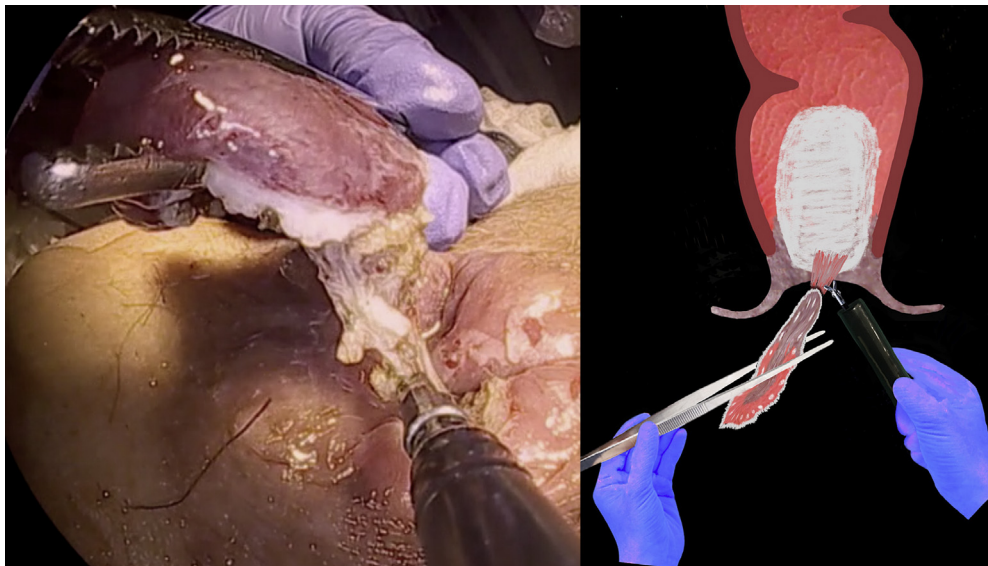


Figure 8. The transanal-traction method.

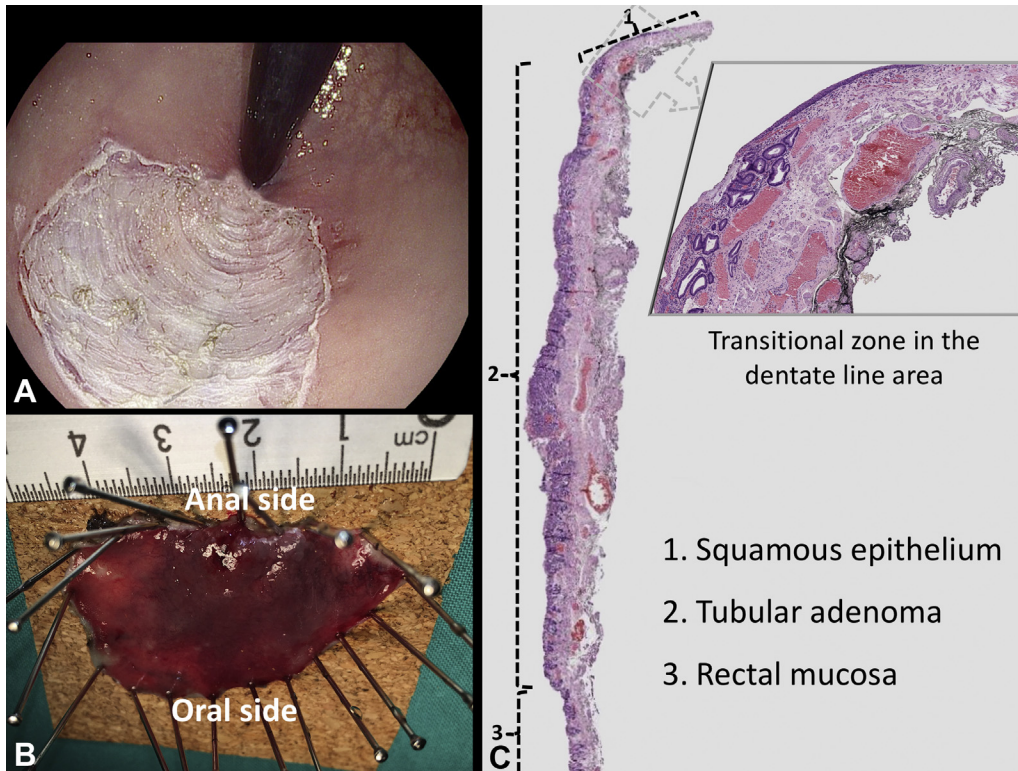


Figure 9. **A**, Resection surface. **B**, Resected specimen. **C**, Histopathologic view of tubular adenoma with low-grade dysplasia with free resection margins and anal transitional zone from squamous to columnar epithelium in the area of the dentate line (H&E, original panoramic photography [inset: H&E, orig. mag. $\times 4$]).

mode. Using a horizontal approach to minimize thermal damage to the muscular layer was necessary. First, we resected the internal anal margin in a retroflexed position (Fig. 6), after which we finished the dissection

by using an extracolonic approach, using a surgical grasper for traction on the lesion (Fig. 7). The transanal-traction method allows excellent traction to perform a safe cut in the area of the dentate line (Fig. 8). Ensuring

dynamic traction to maintain tension in the fibrous vascular tract of the submucosa and separating it from hemorrhoids is important.

The resection was completed within 106 minutes without adverse events (Fig. 9A). The resected specimen measured 35 × 44 mm (Fig. 9B). Pathologic examination revealed a tubular adenoma with low-grade dysplasia and free resection margins (Fig. 9C).

In conclusion, this case report illustrates the difficulty of performing dissection in the area of the dentate line. The hemostatic forceps used as a scissor-type knife can be an alternative in difficult situations. The transanal-traction method is simple and useful to assist in anorectal ESD.

DISCLOSURE

All authors disclosed no financial relationships.

Abbreviation: ESD, endoscopic submucosal dissection.

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