

# Endoscopic submucosal dissection using a new super-soft hood and the multipoint traction technique



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Endoscopic submucosal dissection (ESD) is considered the standard of care for resection of early gastric cancers.<sup>1</sup> To perform this technique in a safe and effective manner, visualization of the submucosal layer and appropriate tissue tension are required. To achieve this, a hood and a countertraction method may be used.<sup>2-6</sup> Here, we introduce ESD using a new super-soft hood<sup>7</sup> and the advanced multipoint traction technique.<sup>8</sup>

## ENDOSCOPIC METHODS

In this video ([Video 1](#), available online at [www.VideoGIE.org](http://www.VideoGIE.org)), a newly developed super-soft hood (Space adjuster; TOP Corp, Tokyo, Japan) made of silicon was used as a distal attachment. Because of its increased flexibility in contrast with conventional hard hoods (straight or ST hood, Fujifilm, Tokyo, Japan), the super-soft hood can enter easily and adjust its tip to the shape of narrow spaces (eg, esophageal lumen, submucosal layer) ([Figs. 1 and 2](#)). This helps in stabilizing the endoscopic view, and appropriate tension can be created in the tissue to be cut. However, this super-soft hood has the stiffness required to tamponade vessels and therefore can tamponade bleeding vessels as done with conventional hard hoods.

With the multipoint traction technique, a snare (25 mm in diameter, 0.47 mm in thickness, SD-210L-25; Olympus

Corp, Tokyo, Japan) is secured along the edge of the specimen with endoclips at multiple points. By pulling the snare, tension is created on the specimen ([Fig. 3](#)). Although this technique has been described previously,<sup>7</sup> we apply additional maneuvers, such as pushing the snare ([Fig. 4](#)) and closing the snare around the clips ([Fig. 5](#)). These techniques create further tension, thus making dissection easier.

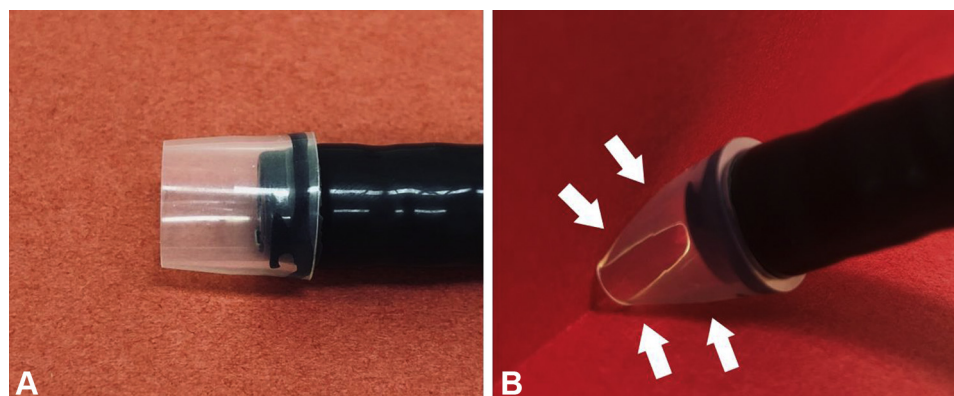
By combining the super-soft hood and multipoint traction technique, this hood can fit into the submucosal space created by the multipoint traction technique. This combination aids in an easier ESD.

## INDICATIONS AND CONTRAINDICATIONS

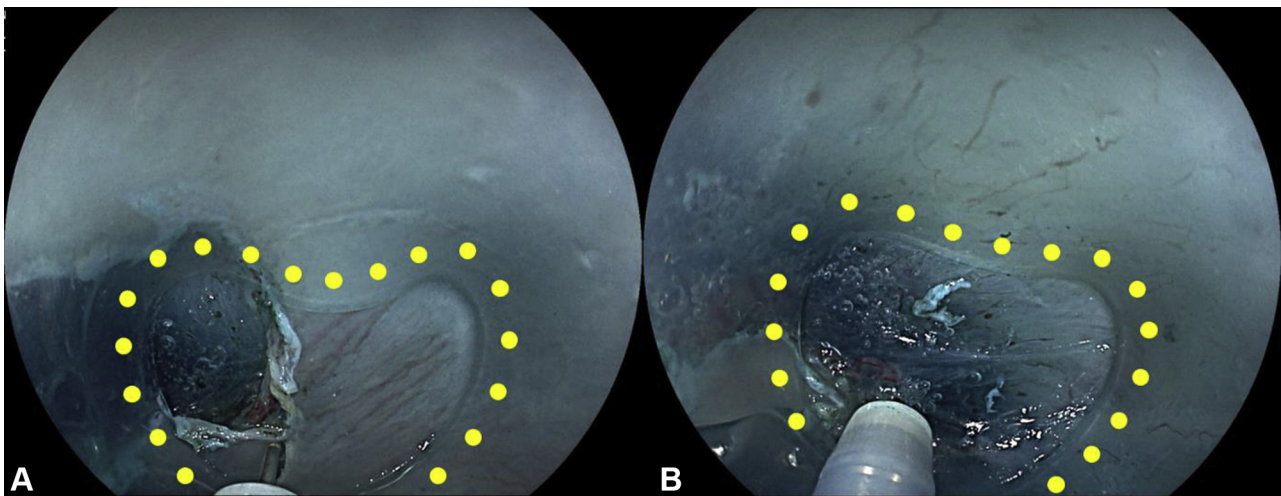
This hood and technique can be used for any ESD cases with potential difficulty in entering the submucosal space. There are no contraindications.

## CASE PRESENTATION

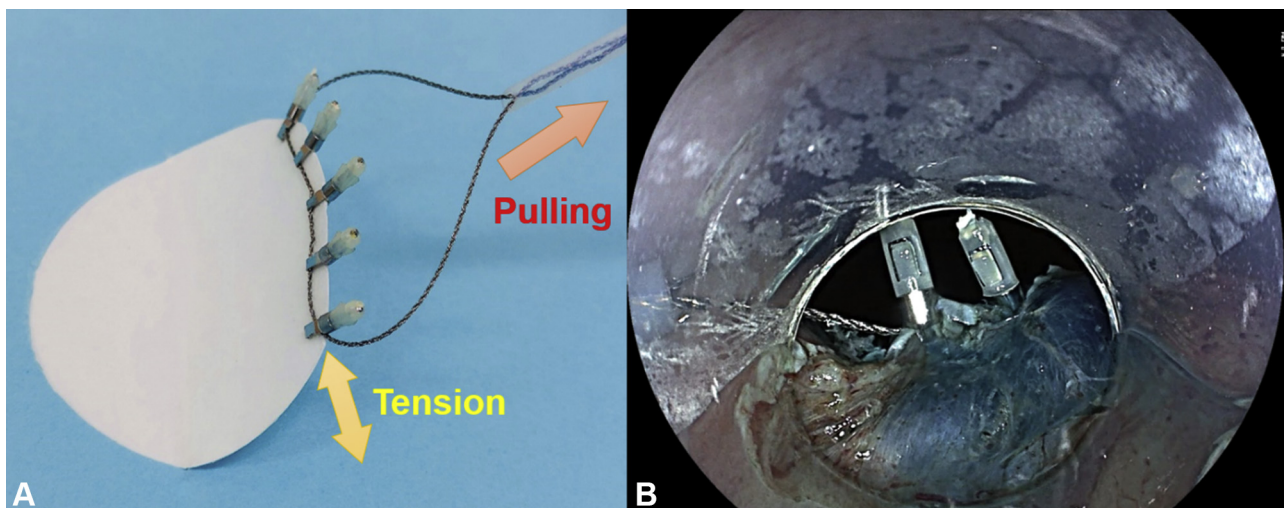
A 75-year-old man presented with decreased appetite and weight loss and therefore underwent an endoscopic examination. EGD revealed a 25-mm 0-IIa+Is lesion in the gastric cardia with features of high-grade dysplasia or



**Figure 1.** **A**, Super-soft hood attached to the endoscope. **B**, The hood can adjust its tip to the shape of narrow spaces because of its increased flexibility.



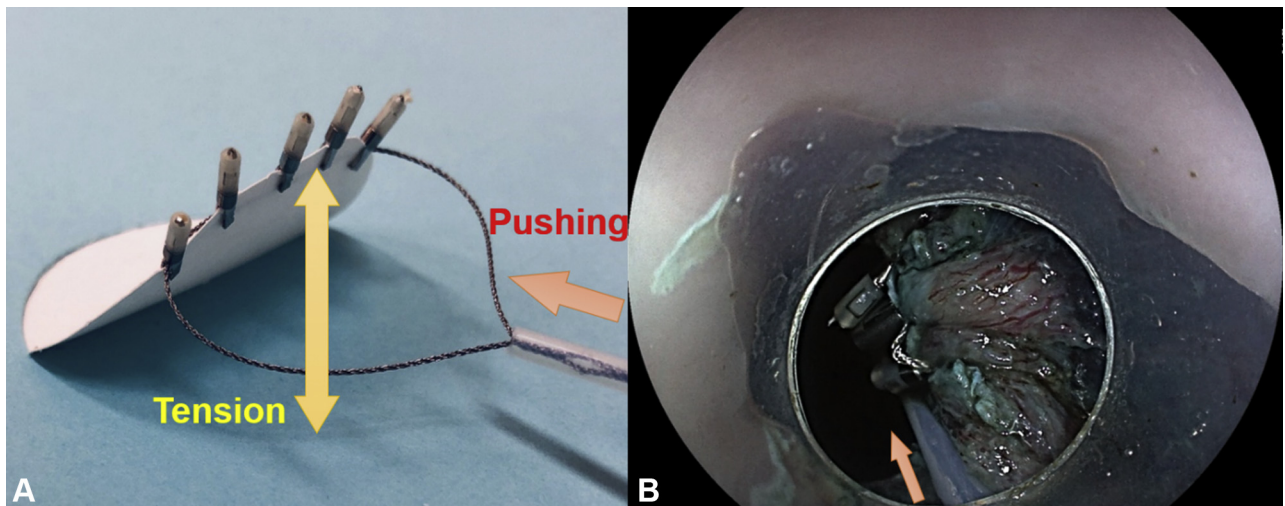
**Figure 2.** Endoscopic images showing the super-soft hood adjusting to the narrow space of esophageal lumen (A) and submucosal layer (B) creating tension needed.



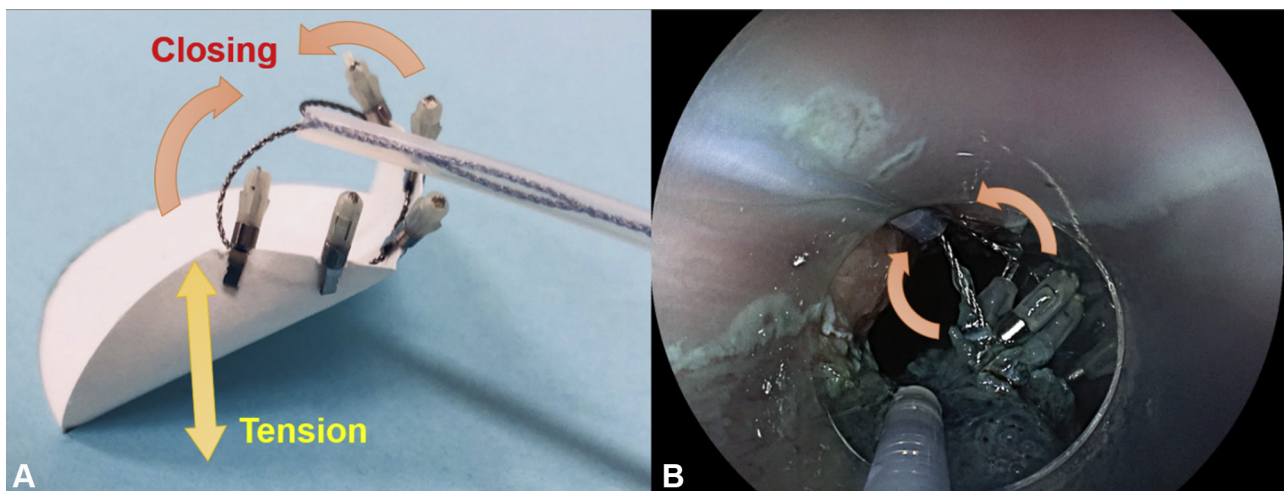
**Figure 3.** A, Replication of a multipoint traction technique, whereby a snare was secured at the proximal side of the mucosal flap of the specimen with endoclips at multiple points, making it possible to create tension on the specimen by pulling the snare. B, Endoscopic image of a multipoint traction technique with pulling the snare.

intramucosal cancer. EUS showed no muscularis propria involvement and no surrounding lymphadenopathy. As such, ESD was performed (Video 1, available online at [www.VideoGIE.org](http://www.VideoGIE.org)). After the lesion was marked, submucosal injection with a mixture of saline solution and indigo carmine was done. The Triangle-Tip knife with water jet function (TriangleTipKnifeJ KD-645L; Olympus Corp, Tokyo, Japan) was used, and the mucosal incision on the gastric side was performed in retroflexion. The circumferential incision of the esophageal side was then carried out in forward view. The super-soft hood adjusted its tip to the narrow space of the esophageal lumen and submucosal layer, creating the tension needed

(Fig. 2). After completion of the circumferential incision, a snare was inserted into the lumen for the multipoint traction technique. A snare was secured with endoclips along the proximal side of the mucosal flap of the specimen at multiple points. This technique created tension on the specimen, opening the submucosal space to facilitate submucosal dissection (Fig. 3). Depending on the position of the lesion and the submucosal plane that is being accessed, the snare can be pulled to the proximal side or pushed to the distal side (Figs. 3 and 4). In addition, closing the snare created further tension on the edge of the specimen, making cutting easier (Fig. 5). Using both the super-soft hood and the multipoint traction



**Figure 4.** **A,** The multipoint traction technique makes it possible to create tension on the specimen by pushing the snare. **B,** Endoscopic image of a multipoint traction technique using the push technique.



**Figure 5.** **A,** The multipoint traction technique creates further tension at the edge of the specimen by closing the snare around the clips. **B,** Endoscopic image of a multipoint traction technique in which closing the snare makes cutting easier.

technique, we achieved en bloc resection without adverse events (Fig. 6).

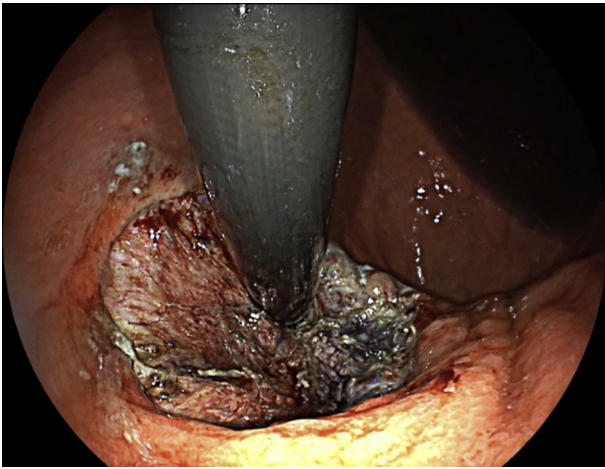
## CLINICAL IMPLICATIONS

ESD for lesions in the cardia can be technically challenging because of the difficulty of getting close to the lesion and entering the submucosal space in retroflexion. By using the techniques described, this can be possible in forward view. As shown in the video, the multipoint traction technique with the use of a snare makes it possible to create adequate traction by pulling, pushing, or closing the snare. Combining the super-soft hood with the multipoint

traction technique yielded ideal countertraction. Although ESD may be technically challenging, the 2 aforementioned methods improve the efficiency and safety of the procedure.

## SUMMARY

A super-soft hood facilitates entry into any narrow space. With the multipoint traction technique, better visualization of the dissection plane can be achieved. This tool and technique may aid in more efficient ESD.



**Figure 6.** Endoscopic image after endoscopic submucosal dissection in the gastric cardia using both the super-soft hood and the multipoint traction technique.

## DISCLOSURE

*H. Inoue is an advisor for Olympus Corporation and Top Corporation and receives grant funding from Olympus Corporation and Takeda Pharmaceutical Company. All other authors disclosed no financial relationships.*

*Abbreviation: ESD, endoscopic submucosal dissection.*

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<https://doi.org/10.1016/j.vgie.2020.03.010>

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