



A specimen collection technique to ensure that the resected specimen is safely retrieved after duodenal ESD

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In recent years, endoscopic submucosal dissection (ESD) has been applied for duodenal tumors.¹⁻³ The advantage of en bloc excision in ESD is that it allows precise pathological examination.⁴ For this reason, it is important to ensure that the resected specimen is collected. However, there is no report on the collection method for duodenal specimens resected by ESD.

Unlike in other organs, in the case of the duodenum, as soon as resection is completed, specimens flow toward the anal side because of gravitational force. In such cases, a long-type endoscope is always necessary to detect and retrieve specimens on the distal side. Under such circumstances, there is a risk of losing specimens. Thus, successful specimen collection is integral to complete this ESD procedure and to estimate the curative effect pathologically.

To prevent loss of resected specimens, we use a collection method of leaving a small portion of the lesion. We show this method in [Video 1](#) (available online at www.giejournal.org). We use 2 collection devices: large grasping forceps (Model No. FG-49L-1, Olympus, Tokyo, Japan) and a collecting net (Meditalia Netis, ABIS, Hyogo, Japan) ([Fig. 1A](#) and [B](#)). We leave a thin, 1-mm-wide bundle of submucosal fibers as a linkage to the duodenal wall before collecting the lesion. It is not easy to leave a 1-mm width of fibers, but it is practical for operators with skill in performing duodenal ESD. The location of the fiber bundle does not affect the procedure or the outcome. Although the lesion is floppy, the submucosal fibers do not allow it to spontaneously break off. After grasping the dissected area of the lesion with large

grasping forceps or a collecting net, the remaining bundle of fibers is sheared ([Fig. 2A-E](#)). Once the lesion is sheared, the endoscope is withdrawn while holding the specimen within its grasp. In this situation, it is necessary to grasp the dissected muscularis mucosa firmly. The muscularis mucosa is stronger than the remaining submucosal bundle, allowing the submucosal bundle to be torn off without causing injury. Because the neoplasm is fragile, grasping the tumor itself will make it collapse, and precise pathological diagnosis will become impossible. When we use a collecting net, it is important to keep the entire lesion firmly within the net before tearing. If we do not place it in the net carefully, there is a risk of losing a fiber connection unintentionally.

This collection technique can ensure collection of the resected specimen without losing it. Extracted specimens are not damaged, so we can make a precise pathological diagnosis. In addition, there is no concern about leaving lesions behind on the dissected ulcer floor because it is a blunt resection of only a 1-mm width of submucosal fibers. We have adapted this technique for more than 500 cases, with no adverse events observed.

This method we presented in this case is safe, easy, and reliable in capturing the resected specimen in duodenal ESD.

DISCLOSURE

All authors disclosed no financial relationships.

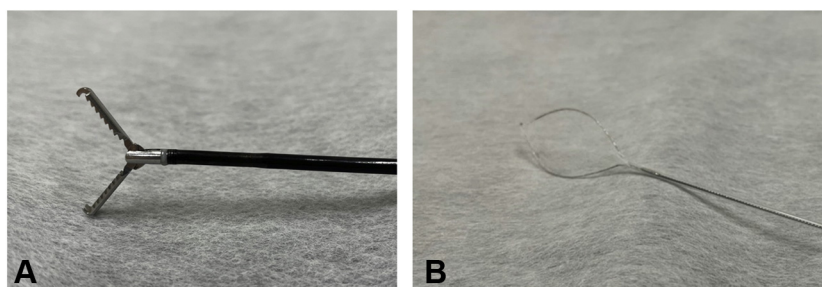


Figure 1. Collection devices. **A**, Large grasping forceps (Model No. FG-49L-1, Olympus, Tokyo, Japan). **B**, Collecting net (Meditalia Netis, ABIS, Hyogo, Japan).

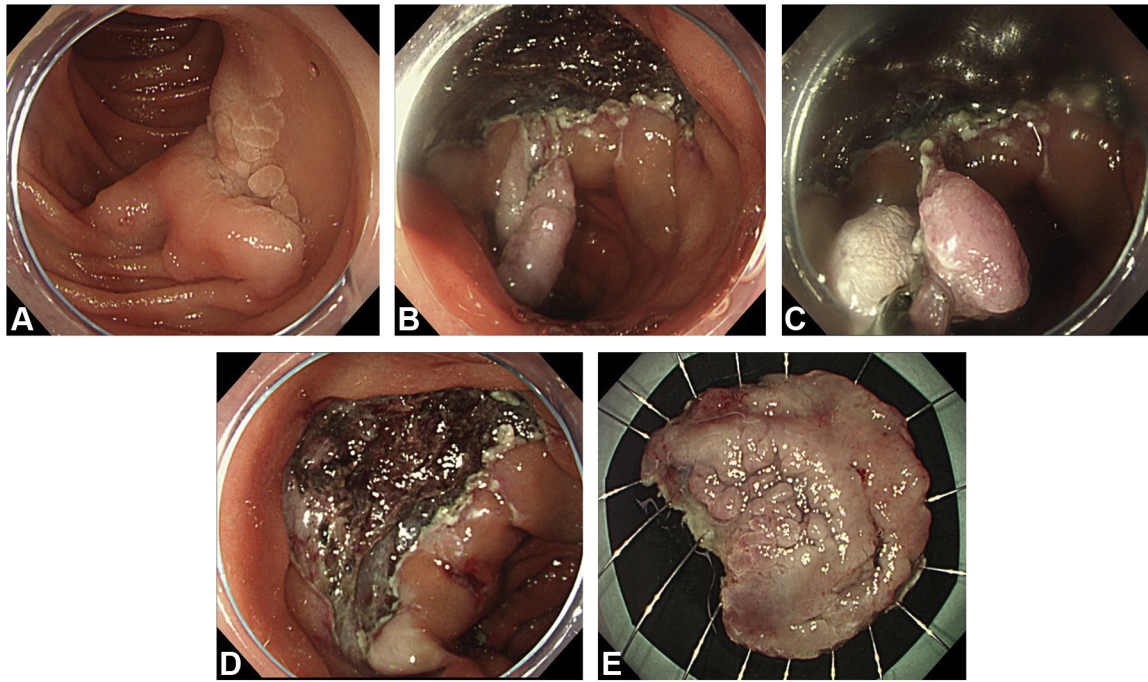


Figure 2. Collection method using large grasping forceps. **A**, A flat, elevated, 30-mm lesion located in the descending portion of the duodenum. **B**, A 1-mm width of submucosal fibers is left behind. **C**, The remaining bundle of fibers is bluntly sheared off with large grasping forceps. **D**, No tissue is left on the dissected ulcer floor. **E**, The lesion could be retrieved without any artificial damage.

Abbreviation: ESD, endoscopic submucosal dissection.

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