

Successful endoscopic submucosal dissection for triple sporadic nonampullary duodenal adenomas using a “push and peel off” technique

Sporadic nonampullary duodenal adenoma (SNDA) is not easy to find in symptomless patients. SNDA has low incidence and usually occurs singly [1]. Resection of duodenal neoplasm by endoscopic submucosal dissection (ESD) has been increasingly reported [2]; however, resection of triple SNDAs has not been reported before, to our knowledge. Here we describe a case of successful ESD for triple SNDAs using a unique “push and peel off” technique, which is different from conventional methods.

A 62-year-old woman was referred for triple duodenal lesions. An esophagogastroduodenoscopy revealed two whitish-colored sessile lesions in the inferior wall of the duodenal bulb, and a large flat elevated lesion with an irregular mucosal surface and shallow central ulceration from the superior duodenal angle to the second portion. A biopsy confirmed the former two lesions as tubular adenoma with low grade dysplasia (LGD), and the latter one as well-differentiated adenocarcinoma.

During ESD of the cancerous lesion, it was difficult to dissect the submucosal layer using only electrocoagulating devices, and the risk of perforation was high because the muscular layer appeared immediately beneath the scarce submucosal layer. Therefore, after making a sufficient submucosal “cushion”, we repeatedly

pushed the endoscope, which had a transparent hood attached at the tip, between the base of the lesion flap and the muscle, enabling the lesion to be peeled off from the muscular layer (● Fig. 1). The resected specimen was 35×25 mm. Pathological analysis confirmed tubular adenoma with high grade dysplasia.

We chose the ESD technique to resect two synchronous adenomas in the bulb together as one specimen. Submucosal dissection was challenging in part, because it was difficult to maintain mucosal elevation due to abundant Brunner's glands. By using a hook knife, safe cutting was possible by dissecting the lesion away from the muscle layer (● Fig. 2). The size of specimen was 2.5×15 mm. Pathological analysis confirmed tubular adenoma with LGD. Dissection from the submucosal layer in the duodenal wall was generally regarded as difficult because of its thin wall and abundant submucosal vasculature and glands [3]. We tried to push the endoscope, with the transparent hood attached, between the base of the lesion flap and the muscle, and were able to peel off the lesion from the muscular layer (“push and peel off” technique). It minimized the use of electrocoagulating devices and helped avoid perforation.

A recent study suggested that endoscopic mucosal resection (EMR) is a safe and effective treatment for duodenal lesions of

less than 15 mm [4]. However, we considered that en bloc resection of the two sessile lesions by the EMR method would be unlikely, and decided to perform one session of ESD. The focal area was difficult to dissect because of insufficient cushion formation; however, we could dissect safely by pulling the submucosal tissue to the luminal side using a hook knife.

This is the first case report of triple SNDAs which were successfully treated by a “push and peel off” technique. This new technique could be useful in performing duodenal ESD safely.

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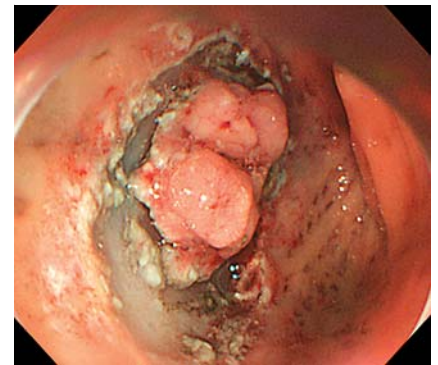


Fig. 2 Conventional endoscopic submucosal dissection (ESD) technique. Two synchronous sessile adenomas in the first part of the inferior wall of the duodenum were dissected using a hook knife. Challenges, in some part due to poor “cushion” formation due to abundant Brunner's glands, were overcome by safe dissection after pulling the submucosal tissue to the luminal side using a hook knife.



Fig. 1 Endoscopic submucosal dissection (ESD) using the “push and peel off” technique. **a** The flat elevated lesion was located from the superior duodenal angle to the second portion of the duodenum. **b** The lesion was peeled off from the muscular layer by pushing the endoscope, which had a transparent hood attached. **c** The lesion was dissected completely.

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