A Case of Synchronous Colonic Laterally Spreading Tumors Treated by Sequential Endoscopic Submucosal Dissection Performed on Two Consecutive Days

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Endoscopic submucosal dissection (ESD) is an useful therapeutic technique for large gastrointestinal epithelial tumors that it provides an en bloc resection. Although there is some controversy about the role of ESD for colorectal lesions, for large lesions in the distal rectum, ESD has the advantage of preserving anal function. However, the large amount of insufflating gas used during the procedure can cause severe abdominal pain and discomfort. Moreover, high intra-luminal pressure caused by a large amount of gas can cause a micro-perforation. There is no consensus as to whether ESD is the optimal treatment for synchronous large colorectal laterally spreading tumors (LSTs) that cannot be removed en-bloc by conventional endoscopic mucosal resection. Here, a case with two neighboring synchronous large LSTs, one located in the rectum and the other in the distal sigmoid colon, were sequentially removed by separate ESD procedures performed on two consecutive days in a patient who could not tolerate a long procedure. (Korean J Gastroenterol 2010;56:196-200)

Key Words: Colon; Synchronous; Laterally spreading tumor; Endoscopic submucosal dissection

Introduction

Although endoscopic mucosal resection (EMR) is a useful therapeutic technique for colorectal laterally spreading tumors (LST), en bloc resection with EMR is sometimes impossible if the tumor size is larger than 20 mm in diameter. To overcome this size limitation, endoscopic submucosal dissection (ESD) has recently been developed in Japan and is increasingly being used in Korea. Although initially developed for gastric tumors, ESD has now been used for lesions in other parts of the gastrointestinal tract, including the colorectum. However, ESD for colorectal lesions has not been widely used because it is technically difficult and takes significantly longer than EMR. Moreover, the large amount of infused gas, during the long procedure, inevitably causes discomfort in the patient.
insufflation, carbon dioxide (CO₂) has been used occasionally. However, special equipment is needed, which is not available at many centers.

There is no consensus on the optimal treatment protocol for synchronous large colon LSTs that cannot be removed en-bloc by conventional EMR. Here, a patient with two neighboring synchronous large LSTs, one in the rectum and the other in the distal sigmoid colon that were sequentially removed by separate ESD procedures performed on two consecutive days, is reported in a patient who could not tolerate a long procedure.

**Case Report**

A 64-year-old man was referred for the treatment of two laterally spreading tumors in the rectosigmoid area. Prior to admission, the patient underwent colonoscopy at a local clinic due to a positive stool occult blood test. The patient was diagnosed with a tubulovillous adenoma. In addition, the patient had a 10 year history of hypertension and was taking an angiotensin converting enzyme inhibitor and a calcium channel blocker for treatment. There was no family history of colorectal cancer.

On admission, the blood pressure was 120/70 mmHg, the pulse rate 62 beats per minute, the respiration rate 20 breaths per minute, and the body temperature of 36.6°C. The physical examination revealed no specific abnormal findings. The laboratory tests showed a hemoglobin of 13.9 g/dL, a hematocrit of 39.6%, a white blood cell count of 5,060 cells/mm³, a platelet count of 278,000 cells/mm³, and a CEA level of 0.899 ng/mL.

The colonoscopy revealed a large multilobulated sessile polyoid mass at the rectosigmoid junction (Fig. 1A) and another multilobulated LST in the distal rectum (Fig. 1B). The distance from the lower margin of the distal lesion to the anal verge was 2 cm. Based on their surface appearance both lesions could be classified as granular type LSTs.

At first, the plan was to remove both lesions on the same day. The ESD procedure was performed at the hospital-based endoscopy unit. Pethidine 50 mg and midazolam 3.5 mg were used for sedation, and 30 mg of propofol was injected when the patient complained of pain. An Olympus GIF-Q260 (Olympus, Tokyo, Japan) upper scope was used. Mucosal markings were made 5 mm outside of the lesion using an argon plasma laser connected to an ERBE VIO 300D electrosurgical unit (ERBE USA, Marietta, Ga, U.S.A). The submucosal injection fluid was a mixed solution that contained 100 ml of 3% hypertonic saline, 1 ml of 1:1000 epinephrine, and 1 ml of indigocarmine. A flex knife (KD-630L, Olympus, Tokyo, Japan) and a hook knife (KD-260R, Olympus, Tokyo, Japan) were connected to the ERBE VIO 300D electrosurgical unit (ERBE USA, Marietta, Ga, U.S.A) and were used for the mucosal incision and submucosal dissection, respectively. The endocut I mode (effect 2) was used for most of the procedure, and the forced coagulation mode (effect 1) was used intermittently for the vascular areas. A transparent cap from the Stiegmann rubber band ligator system (Bard, Covington, Ga, U.S.A) was placed on the tip of the scope to keep the tumor away from the cutting area. A hot biopsy forcep (FD-230U, Olympus, Tokyo, Japan) was used to control severe bleeding from exposed vessels.

During the first procedure for the rectosigmoid lesion, the patient had complained of severe abdominal pain and discomfort. In spite of several trials to reduce the pain including