DOI: 10.3179/jjmu.JJMU.A.127

◇ CASE REPORT ◇

# A case of surgical complete transanal resection of rectal gastrointestinal stromal tumor diagnosed by endoscopic ultrasonography and endoscopic ultrasonography-guided fine needle aspiration

Koichi SOGA, Kenji ITANI

**Abstract**

A 58-year-old Japanese man underwent colonoscopy. We identified a protruding submucosal tumor covered with normal mucosa to the level of the rectal ampullary lesion. The patient underwent convex endoscopic ultrasonography (EUS) and endoscopic ultrasonography-guided fine needle aspiration (EUS-FNA). EUS showed a hypoechoic mass with homogeneous internal echoes and regular margins. The lesion was contiguous with the fourth layer of the rectal wall. The histological specimen from EUS-FNA identified spindle cells. The immunohistochemical profile of the spindle cell tumor was as follows: c-kit+, s-100-, desmin-, and smooth muscle antigen-. We completed surgical resection using the transanal route. The final diagnosis was rectal gastrointestinal stromal tumor.

**Keywords**

EUS-FNA, rectal GIST, submucosal tumor, transanal surgery

## 1. Introduction

Rectal submucosal lesions encompass a wide variety of benign and malignant tumors. Submucosal tumors (SMT) may be used to describe any mass-like protrusion into the lumen that spares the overlying mucosa[1]. One type of rectal SMT is gastrointestinal stromal tumor (GIST). The occurrence of rectal GIST is rare relative to that of gastrointestinal GIST. Miettinen and Lasota[2] reported that the location of GISTs was as follows: stomach (60%), jejunum and ileum (30%), duodenum (4-5%), rectum (4%), and colon and appendix (1-2%). Colorectal GISTs in distant locations are difficult to manage, and this is related to a poor prognosis[3]. In this case, we diagnosed a rectal GIST using endoscopic ultrasonography (EUS) and endoscopic ultrasonography-guided fine needle aspiration (EUS-FNA), and we completed surgical resection using the transanal route.

## 2. Case report

A 58-year-old Japanese man underwent screening colonoscopy. We identified a protruding SMT covered with normal mucosa on the rectal ampullary lesion. The surface color of the tumor was milk-white, and when the tumor was poked with biopsy forceps, it was hard (**Fig. 1 a,b**). Computed tomography (CT) did not reveal any distant or lymph node metastases.

We performed convex EUS (6 MHz, Olympus GF- UCT260, Japan) and EUS-FNA. EUS showed a hypoechoic mass with homogeneous internal echoes and regular margins, located on the rectal ampullary lesion. The lesion measured approximately 17.1 mm and appeared to be contiguous with the fourth layer of the rectal wall (the muscularis propria) (**Fig. 1 c**). On the basis of the morphologic evaluation, GIST was suspected. We attempted to obtain diagnostic confirmation via a transrectal approach using two EUS-FNA procedures with a 19-gauge needle (Expect; Boston Scientific, Marlborough, MA, USA) (**Fig. 1 d**). No complications occurred.

The histological examination of the specimen obtained from EUS-FNA identified spindle cells (**Fig. 2 a,b**). The immunohistochemical profile of the spindle cell tumor was as follows: c-kit +, s-100-, desmin-, and smooth muscle antigen (SMA) - (**Fig. 2 c-e**). The final diagnosis was rectal GIST. We completed surgical resection via the transanal route. The postoperative course was uneventful, and the patient was discharged. The surgical specimen was a milk-white tumor 14 mm × 10 mm in size. Spindle cells were found, and the immunohistochemical profile of the tumor was as follows: c-kit+, s-100-, desmin-, SMA-, and MIB-1 index < 2.0% (**Fig. 3 a-h**). As GIST has a low risk of recurrence according to the modified Fletcher classification[4], we ultimately concluded that the patient should be followed up for

Department of Internal Medicine, Nishijin Hospital, 1035 Mizomae-cho, Kamigyo, Kyoto 602−8319, Japan
Received on August 5, 2018; Revision accepted on October 16, 2018 J-STAGE. Advanced published. date: November 30, 2018