Title:
Endoscopic submucosal excavation of a rectal submucosal tumor assisted by a curvilinear echoendoscope

Authors:
Yu Tang, Xiaoling Zhou, Zhengyu Cheng, Xianfei Zhong

DOI: 10.17235/reed.2023.9862/2023
Link: PubMed (Epub ahead of print)

Please cite this article as:

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.
Title

Endoscopic submucosal excavation of a rectal submucosal tumor assisted by a curvilinear echoendoscope

Yu Tang¹, Xiaoling Zhou², Zhengyu Cheng¹, Xianfei Zhong²*

¹Department of Gastroenterology, People’s Hospital of Leshan, No.238 White Tower Road, Leshan 614000, Sichuan, China

²Health Check Centre, People’s Hospital of Leshan, No.238 White Tower Road, Leshan 614000, Sichuan, China

*Corresponding author at: Department of Gastroenterology, People’s Hospital of Leshan, No.238 White Tower Road, Leshan 614000, Sichuan, China.

E-mail address: zxf2082346@163.com (Xianfei Zhong)

Keywords:
Echoendoscope
Endoscopic submucosal excavation
Submucosal tumor

Dear Editor,
A 62-year-old woman undergoing screening colonoscopy was found to have a submucosal protrusion in the mid-rectum. Evaluation with a curvilinear echoendoscope revealed it to be a 1.8×1.1cm, hypoechoic mass originating from muscularis propria (MP) (Fig. 1A and B). Endoscopic submucosal excavation (ESE) was attempted, but despite adequate dissection of the submucosa, the mass remained poorly defined appearing as a slight elevation in the background of flat muscle (Fig. 1C). Repeat visualization of the lesion status post submucosal dissection was performed with the curvilinear echoendoscope. A biopsy forceps was introduced as a movable landmark which could be visualized on both synchronized endosonographic and optical views, so as to clearly identify the margin of the lesion (Fig. 1D and E). Incision of the MP overlying the identified margin allowed for precise exposure of the mass, which was further excavated and finally resected (Fig. 1F to I). The defect showing preserved serosa was closed with a purse-string suture (Fig. 1J and K). The patient was discharged 3 days later without discomfort. Histopathology confirmed a gastrointestinal stromal tumor (GIST), prognostic group 1 (1).

Discussion
ESE was one of the established endoscopic modalities to remove gastrointestinal submucosal tumors (SMTs) (2, 3). Precise exposure of the SMT was a prerequisite to an en bloc resection with its capsular envelope kept intact. However, a SMT originating from the deep MP layer may ‘sink’ and lose its initial intraluminal protruding feature during ESE, making its exposure difficult. Under that circumstances, we could take advantage of the curvilinear echoendoscope’s linked optical and endosonographic views along with a biopsy forceps used as a movable landmark to precisely locate the start point for the excavation. This allowed for excellent exposure and reduced the technical difficulty in subsequent excavation.

Conflict of interest
The authors declare no conflict of interest.
Informed consent

Informed consent was obtained from the patient for publication of his information and imaging.

Funding

This work was supported by the Sichuan Provincial Medical Science Program (Grant No. S22065) and the Municipal Key Science and Technology Program of Leshan (Grant No. 22SZD074)

References


Figure legends

Fig. 1  A. Endoscopic view of a rectal protruding lesion. B. Curvilinear endosonographic view of a hypoechoic mass originating from muscularis propria. C. Submucosal dissection gave no sign of a mass-like lesion but a poorly-defined, slight elevation in the background of flat muscle. D and E. Visualization of the mass again (asterisk) on the curvilinear echoendoscope’s linked endosonographic and optical view, with a biopsy forceps (arrowhead) facilitating precise identification of its margin. F. Incision of the muscularis propria overlying the identified margin allowed for precise exposure of the mass. G and H. Excavation of the lesion by dissecting its
surrounding muscle. I. The resected specimen with an intact envelope. J. The serosal layer was preserved. K. The defect closed with a purse-string suture.