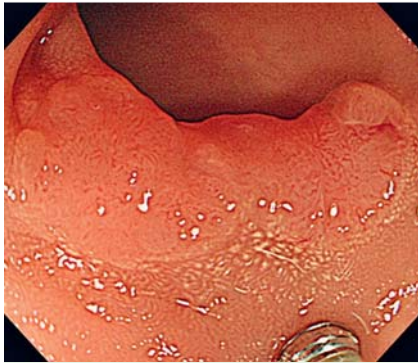
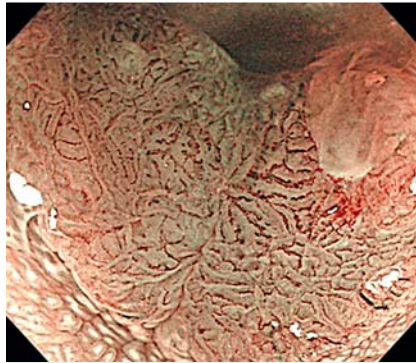


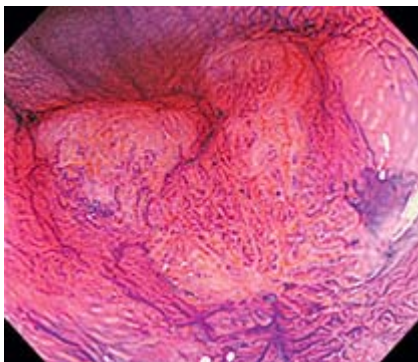
## Synchronous lymph node metastasis in apparently low-risk T1 colon cancer



**Fig. 1** Endoscopic image of the sigmoid colon of an 81-year-old woman undergoing treatment for colon cancer shows a 15-mm flat-elevated lesion with a slight depression.



**Fig. 2** Magnifying endoscopy with narrow-band imaging shows the dilated, tortuous microvascular architecture of the tumor, which lacks uniformity in the depression.



**Fig. 3** Chromoendoscopy with magnification following crystal violet staining shows a severe and irregular pattern in the pit.



**Fig. 4** A distinct nonlifting sign is observed after a diagnostic submucosal injection.

The risk for lymph node metastasis is low in T1 colorectal cancer when none of the following pathologic findings is present: invasion to a depth of 1000 $\mu$ m or more, positive horizontal or vertical margin, lymphovascular permeation, severe tumor budding, and either a poorly differentiated or a mucinous component [1–3]. To the best of our knowledge, no case of such a low-risk T1 tumor associated with lymph node metastasis has been reported.

An 81-year-old woman was referred to our hospital for the treatment of colon cancer. In the sigmoid colon, colonoscopy identified a 15-mm flat-elevated lesion with a slight depression (● Fig. 1). On

narrow-band imaging, the microvascular architecture of the tumor was dilated and tortuous, and it lacked uniformity in the depression (● Fig. 2). Chromoendoscopy with magnification following crystal violet staining revealed a severe and irregular pattern in the pit (● Fig. 3). The lesion was diagnosed as a deeply invasive submucosal adenocarcinoma; therefore, we performed a diagnostic submucosal injection, and a distinct nonlifting sign was recognized (● Fig. 4). For this reason, the patient underwent sigmoidectomy with lymph node dissection. Pathologic evaluation of the resected specimen confirmed that the tumor had invaded the shallow part of the submucosal layer (invasion

depth 560 $\mu$ m from the muscularis mucosae; ● Fig. 5). This lesion was considered to be a low risk T1 tumor because of the lack of pathologic findings associated with lymph node invasion. Nonetheless, pathologic examination of the resected lymph nodes showed that cancer cells had metastasized to a regional node (● Fig. 6).

The current treatment strategy after endoscopic resection for a T1 tumor depends on the perceived metastatic risk based on the pathologic findings [1]. The long-term outcomes of T1 colon cancer after endoscopic resection are reportedly acceptable [4,5]. However, a standard surveillance strategy after endoscopic resection has not yet been established. This case may suggest the need for imaging surveillance to detect lymph node metastases after the endoscopic resection of apparently low risk T1 tumors.

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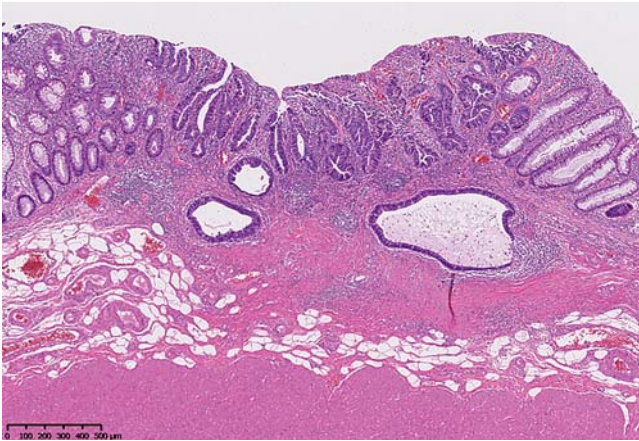
**Competing interests:** None

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**Fig. 5** Histology of the resected specimen shows the tumor invading the shallow part of the submucosal layer (invasion depth 560  $\mu$ m from the muscularis mucosae) in the absence of metastatic risk factors (hematoxylin and eosin stain, bar length 500  $\mu$ m).

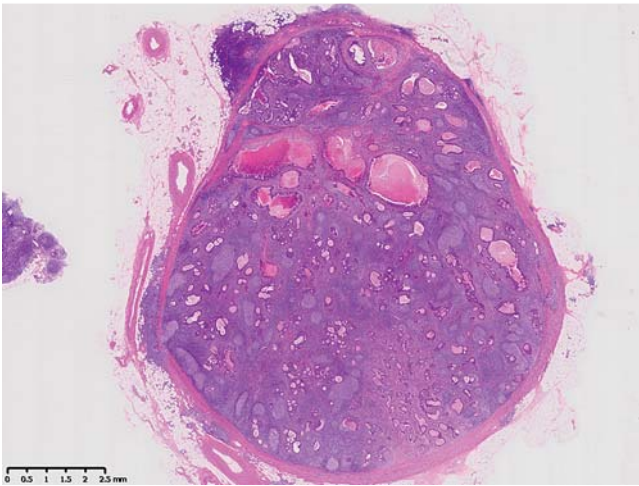
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**DOI** <http://dx.doi.org/10.1055/s-0034-1377593>  
Endoscopy 2014; 46: E526–E527  
© Georg Thieme Verlag KG  
Stuttgart · New York  
ISSN 0013-726X

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**Fig. 6** Histologic appearance of the dissected lymph node showing cancer cells in a regional lymph node (hematoxylin and eosin stain, bar length 2.5 mm).