

CASE REPORT

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A case of local recurrence of T1 rectal cancer 10 years after transanal excision

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ABSTRACT

We report a case of a patient with T1 rectal cancer, which recurred locally after 10 years from the primary operation. A 78-year-old woman was diagnosed with rectal cancer. Transanal excision (TAE) was performed in December 2006. The pathological findings revealed stage I rectal cancer [tub2>muc, pSM (2,510 µm), ly0, v0, pHM0, pVM0]. Because she did not opt for additional treatment, she received follow-up examination. After approximately 10 years from the primary operation, she presented to her physician, complaining of melena, and she was referred to our hospital again in November 2016. She was diagnosed with recurrent rectal cancer. Laparoscopic abdominoperineal resection was performed in December 2016. Pathological findings revealed stage IIIB rectal cancer (tub2>muc, pA, pN1). The reported postoperative local recurrence rate for T1 rectal cancer after TAE is high, but local recurrence after years from the primary operation is rare. In high-risk cases, local recurrence may be observed even after 10 years from the primary operation. Long-term and close postoperative follow-up is important to detect local recurrence early.

Keywords: rectal cancer, local recurrence, T1, transanal excision

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INTRODUCTION

In Japan, the treatment strategies for pT1 (Submucosa, SM) cancer after endoscopic resection laid by the Japanese Society for Cancer of the Colon and Rectum (JSCCR) Guidelines 2016 are reasonable and obtained a certain consensus¹⁾. These guidelines also apply to cases where local excision was performed, generally with a transanal approach. With the increase in aging population in recent years, even if an additional surgery is recommended after local excision, the observed cases are increasing because of patients' backgrounds²⁾. The long-term postoperative courses of such cases are unclear. Here, we report a case of a patient with T1 rectal cancer that recurred locally after 10 years from transanal excision (TAE).

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CASE PRESENTATION

A 78-year-old woman was admitted to our hospital due to melena. Endoscopic examination of the colorectum revealed a 0-Isp (semipedunculated) type lesion located proximal to 2 cm from the dentate line on the posterior wall of the rectum (Figures 1 A and 1 B). Histological examination of biopsy specimens confirmed the presence of a moderately differentiated adenocarcinoma. Endoscopic ultrasound showed no invasion into the muscularis propria; therefore, she was diagnosed with T1 rectal cancer. Computed tomography (CT) showed no enlarged lymph node around the primary tumor and distant metastasis. TAE was performed in November 2006 (Figure 2 A–B). Pathological findings revealed a 2,510 μm tumor invasion into the submucosal layer, mucous nodules in the deepest part of the tumor, absence of vascular invasion, and nega-

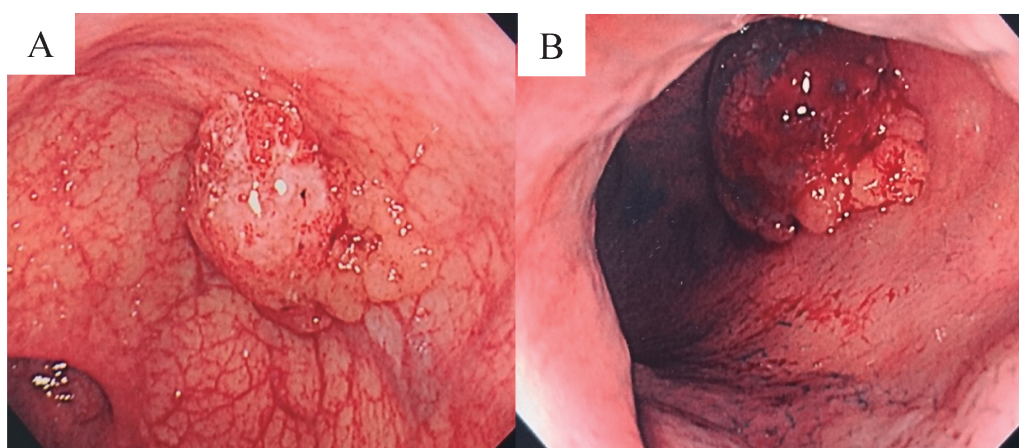


Fig. 1 Endoscopic examination of the colorectum reveal a semipedunculated type lesion located distal to 2 cm from the dentate line on the posterior wall of the rectum in 2006 (A, B).

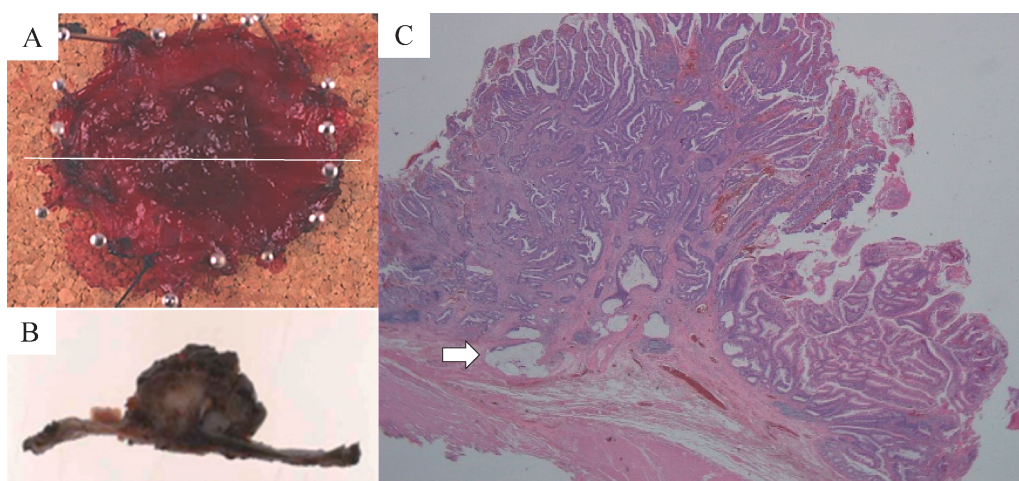


Fig. 2 The resected specimen (A) and the carcinoma in the cleavage plane (B). Tumor invasion into the submucosal layer is 2,510 μm . Mucous nodules are observed in the deepest part of the tumor invasion (white arrow, C).

tive resection margin; pHM0 (6,000 μm), pVM0 (2,400 μm) (Figure 2 C). Most of the tumor consisted of moderately differentiated adenocarcinoma, and a component of mucinous carcinoma was found in the deep part of the tumor. Final diagnosis at the primary operation was rectal cancer, tub2>muc, T1b (2,510 μm) N0M0 Stage I, based on UICC, 7th edition.

Although intestinal resection with lymph node dissection as an additional treatment was considered because of the depth of SM invasion $>1,000 \mu\text{m}$, she did not opt for additional treatment for permanent colostomy. We provided sufficient informed consent, and no adjuvant therapy was administered. She received follow-up examination from our hospital for 7 years from the primary operation (Figure 3). Especially during the first 3 years, she received close follow-up examinations. Endoscopic examination of the colorectum was performed annually until 7 years after the primary operation (Figure 4 A–B). Endoscopic examination on December 2013 showed no signs of local recurrence in the operative scar and other lesions. After the first 7 years, follow-up was performed by her physician. After approximately 10 years from the first operation, she presented to her physician complaining of melena and was referred to our hospital again at the age of 88 years. Laboratory examinations showed high CEA levels (16.4 ng/mL). Endoscopic examination of the colorectum revealed an ulcerated lesion on the primary operative scar that invaded the dentate line (Figure 4 C). CT showed thickening of the rectum wall without distant metastasis. The preoperative diagnosis was recurrent rectal cancer; T3N0M0 rStage IIA based on UICC, 7th edition. In November 2016, laparoscopic abdominoperineal resection was performed (Figure 5 A). Histological examination of the second surgical specimen confirmed that the growth pattern was similar to the first surgical specimen wherein mucous nodules were observed in the deep part of the tumor (Figures 5 B and 5 C). Although a moderately differentiated tubular adenocarcinoma with adenoma components was observed in the first surgical specimen, only adenocarcinoma components were observed in the second surgical specimen. In addition to these points, because the tumor redeveloped only on the operative scar, it was finally considered as the local recurrence of the primary tumor. The patient's postoperative course was uneventful. The pathological diagnosis was rectal cancer; tub2>muc, pT3N1M0, pStage IIIB based on UICC, 7th edition. Metastasis was found in the pararectal lymph node.

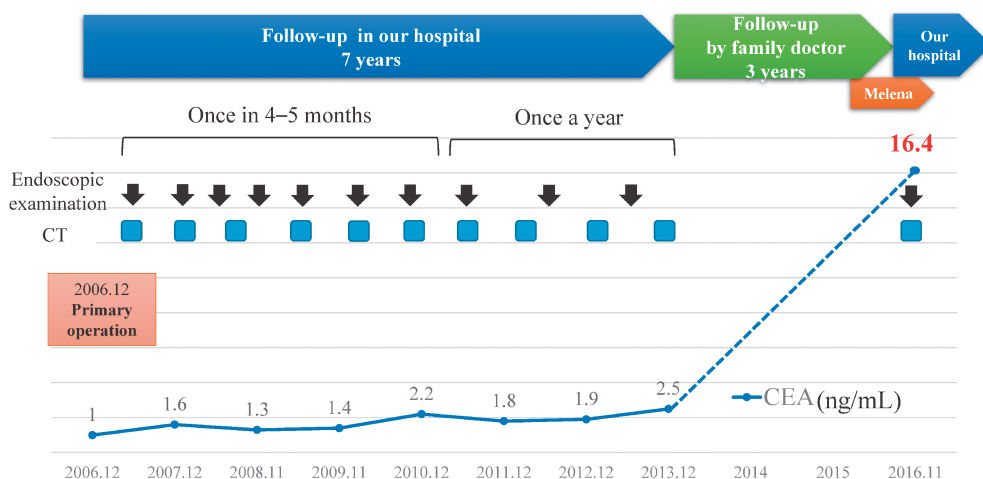


Fig. 3 Clinical course

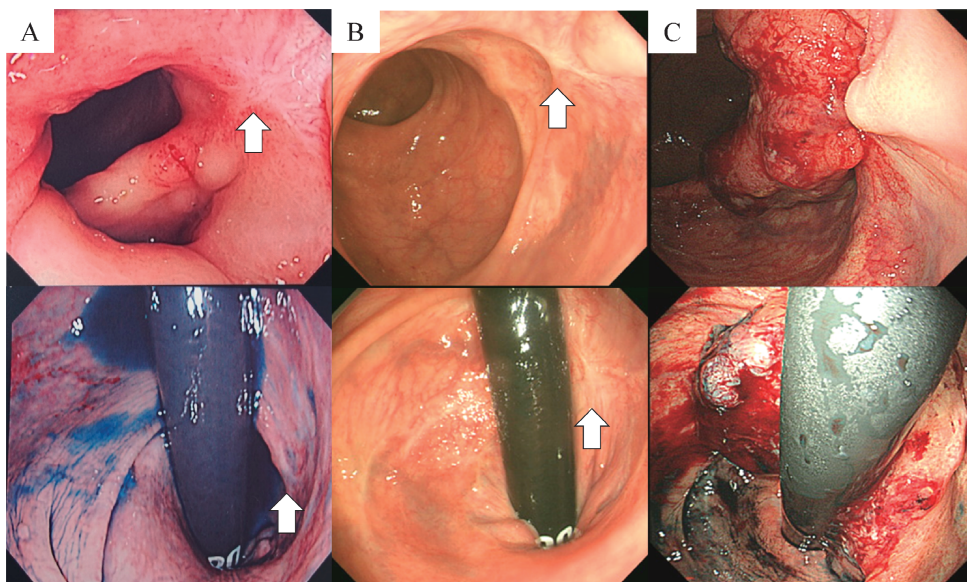


Fig. 4 Endoscopic examination of the colorectum shows no signs of local recurrence at half a year after the operation (A), at 6 years after operation (B); postoperative scar (white arrow); an ulcerated lesion on the scar of the first operation that invades the dentate line at 10 years after the operation (C).

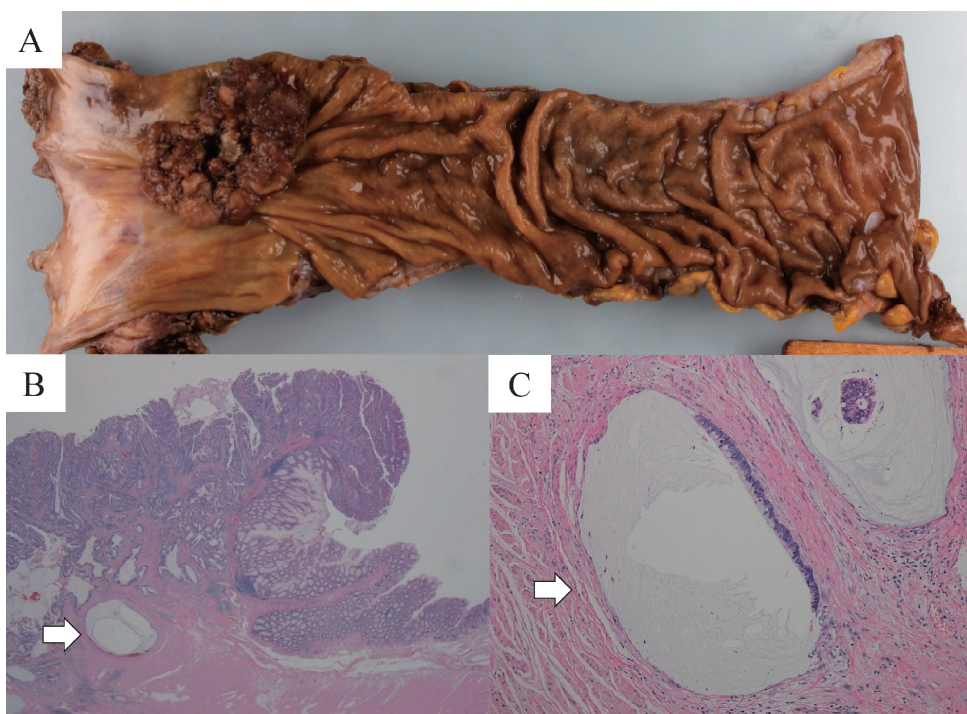


Fig. 5 The resected specimen (A) and the carcinoma in the cleavage plane (B). Tumor invasion into the submucosal layer is 2,510 μm . Mucous nodules are observed in the deepest part of the tumor invasion (white arrow, C).

DISCUSSION

The treatment strategies for pT1(SM) cancer after local excision mentioned by the JSCCR Guidelines 2016 are reasonable. Local excision is indicated for cTis (M) cancer and cT1 (SM) cancer located distal to the second Houston valve (peritoneal reflection). If any of the following findings, namely, (1) depth of SM invasion $\geq 1,000$ μm , (2) positive vascular invasion, (3) poorly differentiated adenocarcinoma, signet-ring cell carcinoma, or mucinous carcinoma, and (4) grade 2/3 budding at the site of deepest invasion, is observed during histological examination of the resected specimen, the resection of the colorectum with lymph node dissection is considered as an additional treatment¹⁾. When an additional surgery is performed, patients' backgrounds such as age, primary disease, performance status, surgical risks, and view on life must be considered. This is because additional surgery, such as abdominoperineal resection, performed even by proficient surgeons can lead to postoperative anal, urinary, and reproductive impairment, and the presence of a permanent colostomy significantly impacts the patient's quality of life³⁾. With the aging of the population in recent years, even if additional treatment is recommended after local excision, the observed cases are increasing because of patient's backgrounds²⁾. However, the long-term outcomes of such cases are unclear.

Local rectal cancer can be treated with local excision, including TAE, transanal endoscopic microsurgery, minimally invasive transanal surgery, and endoscopic resection. Irrespective of the surgical method, R0 excision is the most important procedure. Local excision is a useful operative procedure. Recent studies reported that local excision of early-stage low rectal cancer can preserve anal, urinary, and reproductive function and is associated with few complications³⁾, low operative mortality, rapid postoperative recovery, and short hospital stay. In contrast, many studies have shown that the risk of postoperative local recurrence after local excision is higher compared to that of radical surgery⁴⁾. The reported postoperative local recurrence rate for T1 rectal cancers after local excision is 9%–24%⁵⁻¹¹⁾, whereas that after radical surgery is 0%–7%⁵⁻¹⁵⁾.

According to JSCCR Guidelines 2016, the overall incidence of recurrence more than 5 years after surgery is less than 1%¹⁾. The reported time to local recurrence for T1 rectal cancers after local excision is 4–174 months (mean, 48.3 months)³⁾. Even in T1 cancers, recurrence may be observed after 10 years from the initial treatment; therefore, a longer period of close postoperative follow-up is required in high-risk cases.

In our case, although the mechanism of local recurrence after years is not clear, it is considered that discontinuous lesions in the deep part of the tumor existed outside the excision range, and the residual cancer cells in the mucous nodule had existed in a tumor-dormant state for a long time, after that the cancer cells had activity from dormancy and recurred locally. Akimoto et al. reported that discontinuous tumor lesions were found in 3% of T1 colorectal cancers¹⁶⁾. In addition, cases of local recurrence without vascular invasion (ly0, v0) were also reported²⁾ as in our case.

Especially in rectal cancer, physical examinations, such as rectal examination and fecal occult blood test are useful for the detection of local recurrence. In high-risk cases, close postoperative follow-up in cooperation with family doctors even after 5 years from the primary operation is required. Saitoh et al. reported that surgically resectable cases at the time of recurrence had a higher survival rate and longer mean survival time than that of unresectable cases²⁾. Early detection of recurrence and aggressive salvage therapy can prolong the survival time of rectal cancer patients. However, whether salvage surgery after local recurrence improves the prognosis is not yet clear. Further studies for salvage surgery are necessary.

CONCLUSIONS

We experienced a case of T1 rectal cancer that recurred locally after 10 years from TAE. In high-risk cases, local recurrence may be observed after 10 years from the primary operation. Long-term and close postoperative follow-up is encouraged.

CONFLICTS OF INTEREST

All authors certify that they have no personal, financial, or institutional conflict of interest in the subject matter or materials or drugs used in this article.

REFERENCES

- 1) Watanabe T, Itabashi M, Shimada Y, Tanaka S, Ito Y, Ajioka Y, et al. Japanese Society for Cancer of the Colon and Rectum (JSCCR) Guidelines 2014 for the treatment of colorectal cancer. *Int J Clin Oncol*, 2015; 20: 207–239.
- 2) Saitoh Y, Oka S, Tanaka S, Saito Y, Ikematsu H, Igarashi M, et al. Questionnaire survey regarding metastasis and recurrence after endoscopic resection for T1(SM) carcinomas: results from JSCCR project research. *Stomach and Intestine* (Tokyo), 2015; 50: 448–455.
- 3) Zhao DB, Wu YK, Shao YF, Wang CF, Cai JQ. Prognostic factors for 5-year survival after local excision of rectal cancer. *World j Gastroenterol*, 2009; 15: 1242–1245.
- 4) Lu JY, Lin GL, Qiu HZ, Xiao Y, Wu B, Zhou JL. Comparison of transanal endoscopic microsurgery and total mesorectal excision in the treatment of T1 rectal cancer: a meta-analysis. *PLoS One*, 2015; 10: 1–11.
- 5) Palma P, Horisberger K, Joos A, Rothenhoefer S, Willeke F, Post S. Local excision of early rectal cancer: is transanal endoscopic microsurgery an alternative to radical surgery? *Rev Esp Enferm Dig*, 2009; 101: 172–178.
- 6) De Graaf EJ, Doornebosch PG, Tollenaar RA, Meershoek-Klein Kranenbarg E, de Boer AC, Bekkering FC, et al. Transanal endoscopic microsurgery versus total mesorectal excision of T1 rectal adenocarcinomas with curative intention. *Eur J Surg Oncol*, 2009; 35: 1280–1285.
- 7) Ptok H, Marusch F, Meyer F, Koeckerling F, Gastinger I, Lippert H, et al. Oncological outcome of local vs radical resection of low-risk pT1 rectal cancer. *Arch Surg*, 2007; 142: 649–656.
- 8) Lee W, Lee D, Choi S, Chun H. Transanal endoscopic microsurgery and radical surgery for T1 and T2 rectal cancer. *Surg Endosc*, 2003; 17: 1283–1287.
- 9) Langer C, Liersch T, Suss M, Siemer A, Markus P, Ghadimi BM, et al. Surgical cure for early rectal carcinoma and large adenoma: transanal endoscopic microsurgery (using ultrasound or electrosurgery) compared to conventional local and radical resection. *Int J Colorectal Dis*, 2003; 18: 222–229.
- 10) Heintz A, Morschel M, Junginger T. Comparison of results after transanal endoscopic microsurgery and radical resection for T1 carcinoma of the rectum. *Surg Endosc*, 1998; 12: 1145–1148.
- 11) Winde G, Nottberg H, Keller R, Schmid KW, Bünte H. Surgical cure for early rectal carcinomas (T1). Transanal endoscopic microsurgery vs. anterior resection. *Dis Colon Rectum*, 1996; 39: 969–976.
- 12) Buess G, Kipfmüller K, Ibald R, Heintz A, Hack D, Braunstein S, et al. Clinical results of transanal endoscopic microsurgery. *Surg Endosc*, 1988; 2: 245–250.
- 13) Floyd ND, Saclarides TJ. Transanal endoscopic microsurgical resection of pT1 rectal tumors. *Dis Colon Rectum*, 2006; 49: 164–168.
- 14) Borschitz T, Heintz A, Junginger T. The influence of histopathologic criteria on the long-term prognosis of locally excised pT1 rectal carcinomas: results of local excision (transanal endoscopic microsurgery) and immediate reoperation. *Dis Colon Rectum*, 2006; 49: 1492–1506.
- 15) Endreth BH, Myrvold HE, Romundstad P, Hestvik UE, Bjerkeset T, Wibe A, et al. Transanal excision vs. major surgery for T1 rectal cancer. *Dis Colon Rectum*, 2005; 48: 1380–1388.
- 16) Akimoto N, Mitomi H, Okamoto Y, Kobayashi S, Okamoto K, Ichikawa K, et al. Problems of endoscopic treatment for submucosal invasive colorectal cancer with particular attention to lymphovenous invasion apart from the invasive front in the deeper layer of the colon. *Stomach and Intestine* (Tokyo), 2014; 49: 973–977.