

Case Report

Single-Incision Laparoscopic Ileocecal Resection for Intra-appendiceal Polyp with Malignant Potential

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ABSTRACT

Due to the presence of fecal occult blood, a 71-year-old man underwent colonoscopy, which demonstrated a 1-cm polyp at the orifice of the vermiform appendix. Endoscopic resection was impossible because the polyp moved in and out of the appendiceal lumen. Laboratory examination at colonoscopy revealed a serum p53 antibody level of 6.38 U/ml (normal <1.30 U/ml), while all other blood test results were unremarkable. Although endoscopic biopsy did not show malignancy, surgical treatment was judged necessary because malignancy could not be ruled out. To treat the appendiceal lesion, laparoscopic ileocecal resection with lymph node dissection was performed by means of single-incision laparoscopic surgery. The duration of the operation was 150 minutes, and perioperative blood loss was 40 ml. The postoperative course was uneventful, and the patient was discharged 10 days after the operation. The surgical specimen showed invagination and inversion of a portion of the appendix due to a pedunculated polyp. The pathological diagnosis was high-grade adenoma.

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Key words : single incision, intra-appendiceal polyp, laparoscopic surgery

INTRODUCTION

Adenomatous polyps of the appendix are rare, with prevalence of 0.004% to 0.08% in surgical and postmortem specimens^{1,2}. Such polyps often present as intussusceptions of the appendix, making preoperative diagnosis difficult³. Endoscopic biopsy or excision of these lesions has been difficult because of the risk of bleeding, perforation, or incomplete excision^{4,5}. Surgical treatment is required, especially if the patient shows abdominal symptoms or if malignancy is suspected. We herein report an intra-appendiceal polyp, a high-grade adenoma, that was resected by means of single-incision laparoscopic surgery (SILS).

CASE REPORT

Due to the presence of occult blood in the stool, a 71-year-old man underwent colonoscopy, which demonstrated a 1-cm polyp at the orifice of the vermiform appendix (Fig. 1a). Endoscopic resection was not possible because the polyp was mobile and retracted into the appendiceal lumen (Fig. 1b).

Laboratory examination at colonoscopy revealed a serum p53 antibody level of 6.38 U/ml (normal level less than 1.30 U/ml), whereas all other serum results were unremarkable. Upper gastrointestinal endoscopy demonstrated no abnormalities, such as polyps, ulcers, and tumors. Results of computed tomography of the chest and abdomen were unremarkable.

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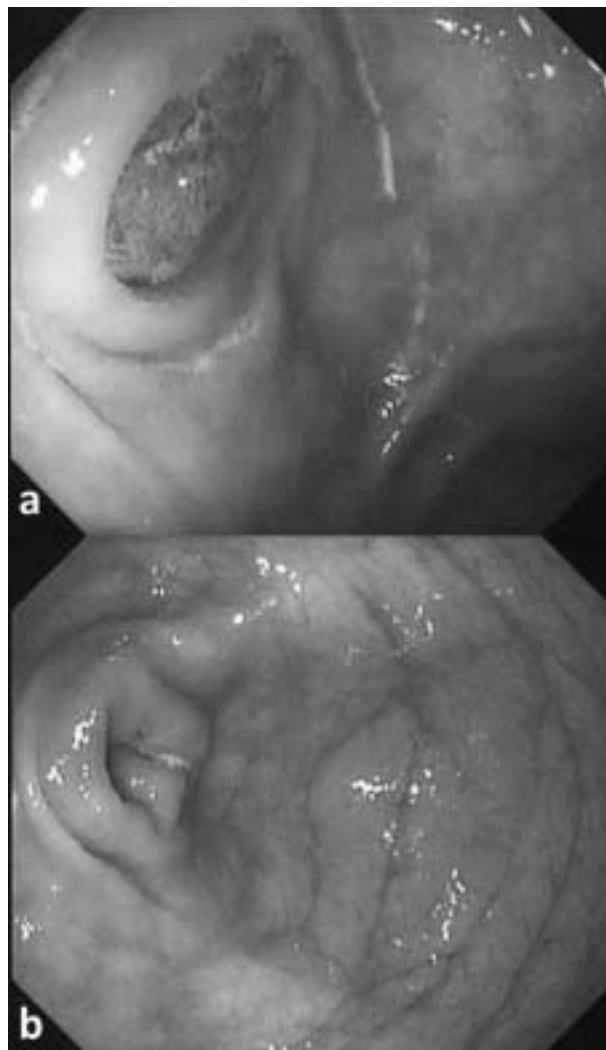


Fig. 1. Preoperative colonoscopy
a: A 1-cm polyp was detected at the orifice of the vermiform appendix.
b: The polyp was mobile and often retracted into the appendiceal lumen.

Although malignant cells were not obtained with endoscopic biopsy, surgical treatment was performed because of the possibility of malignancy. Laparoscopic ileocecal resection of the appendiceal lesion with lymph node dissection was performed by means of SILS in October 2009 (Fig. 2). The duration of the operation was 150 minutes, and perioperative blood loss was 40 ml. The postoperative course was uneventful, and the patient was discharged 10 days after the operation. The surgical specimen showed invagination and inversion of a portion of the appendix due to a pedunculated polyp (Fig. 3), which patho-



Fig. 2. Surgical incision by SILS
a: A 3-cm-long longitudinal incision at the umbilicus immediately after the operation.
b: The umbilical incision 1 month after the operation.

logical examined showed to be a high-grade adenoma. Immunohistochemical analysis showed that some cells expressed p53 (Fig. 4).

DISCUSSION

Intra-appendiceal polyps seem to have a strong correlation with the inflammatory process⁶, which forms at the leading point of intussusceptions of the appendix³. The first patient with intussusceptions of the appendix was described by Mckidd in 1958⁷. Since then, more than 200 cases have been described. The mean age of patients is 16 years, but the majority of cases become symptomatic in the first decade of life. Intussusception of the appendix is 4 to 5 times more frequent in males than in females⁸.

Although successful excisional biopsy of a pedunculated appendiceal polyp by means of colonoscopy has been reported⁹, incomplete excision is a serious concern, as are bleeding and perforation^{4,5}.

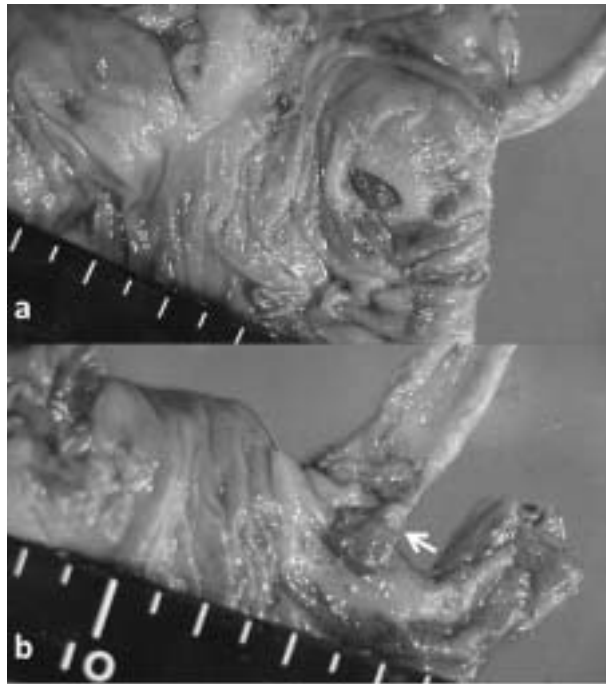


Fig. 3. Surgical specimen
 a: A polyp occupied the orifice of the vermiform appendix.
 b: The invagination and inversion of the appendix caused by a pedunculated polyp (arrow).

Surgical treatment is indicated, especially if the patient shows abdominal symptoms or if malignancy is suspected. In our patient, another indication for surgery was the preoperative finding in the serum of p53 antibodies, which are reported to be associated with superficial colorectal cancer¹⁰.

Recently, laparoscopic surgery has increasingly been performed for early colorectal cancer. SILS, also known as single-port access surgery and laparoendoscopic single-site surgery, has been used for various abdominal surgical procedures^{11–15}. The primary advantage of SILS is cosmetic. Because the umbilical wound is located in the hollow of the navel, it will gradually disappear. For a cecal lesion, lymph node dissection can be performed as easily with SILS as with conventional multiport laparoscopic surgery. A suspected but unconfirmed malignancy may be a good indication for SILS.

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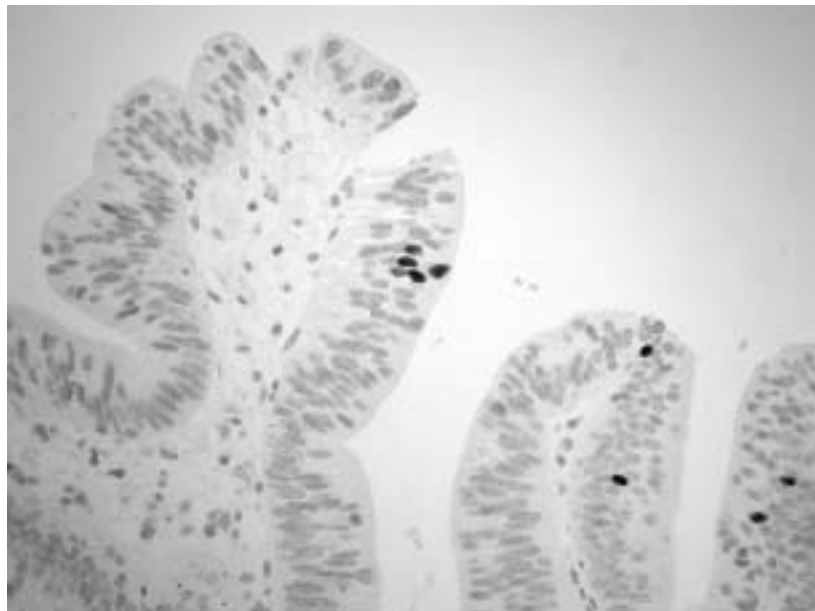


Fig. 4. Immunohistochemical staining
 The pathological diagnosis was high-grade adenoma, and some cells expressed p53 ($\times 400$).

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