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CASE REPORT

A rare case of schwannoma of the small intestine discovered during intussusception

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Abstract

A woman in her 60s with anemia was diagnosed with a small intestinal intussusception on computed tomography. She underwent a double-balloon endoscopy, which revealed submucosal tumor in the ileum. Suspected to be the cause of anemia and intussusception, surgical intervention was carried out, revealing it to be a schwannoma. Schwannomas of the small intestine are very rare, and because exophytic growths are common, intussusception due to luminal side development is even rarer.

Introduction

Schwannomas commonly occur in cranial and peripheral nerves. Gastrointestinal schwannomas,[1] however, are said to have different histologic features from conventional soft tissue schwannomas, and gastrointestinal schwannomas belong to the gastrointestinal stromal tumors.[2,3] Gastrointestinal schwannomas are extremely rare, accounting for only about 3% of all gastrointestinal stromal tumors.[4] Small intestinal schwannomas are even rarer. In this report, we report a small intestinal schwannoma diagnosed in intussusception.

Case report

A female in her 60s visited a local medical facility with the primary complaint of fatigue during physical activity. She was diagnosed with anemia, with a hemoglobin level of 6.5 g/dL. Upper and lower gastrointestinal endoscopies revealed no abnormalities. A thoracoabdominal contrast computed tomography (CT) scan indicated the presence of a small intestinal tumor and resulting intussusception, prompting a referral to our institution for further evaluation (Fig. 1a). In our hospital, CT re-examination showed that the intussusception had been removed, so subsequent retrograde double-balloon endoscopy (DBE) was performed after bowel preparation. DBE revealed a conspicuous 4-cm submucosal lesion in the ileum situated approximately 3 m from the Bauhin valve. The lesion was characterized by intense redness; however, no obvious ulcers or other lesions were observed (Fig. 1b). Biopsy performed by DBE showed only inflammatory changes and hyperplasia of small blood vessels, but no malignant signs were observed. The cause of the intussusception was determined by DBE. Although the intussusception resolved, partial resection of the small intestine was necessary as the lesion was considered the underlying cause of anemia, and there was a risk of future occurrence and recurrence. A partial resection of the small intestine was performed by open surgery. At the time of surgery, the location of the tattoo was confirmed, and the tumor was removed. In the surgical specimen as well, the surface was covered with small intestinal mucosal epithelium, and no erosion or ulcer formation was observed (Fig. 1c). Pathological analysis confirmed the presence of a schwannoma with spindle-shaped cells (Fig. 1d) that tested negative for c-kit and CD34, positive for S100, and negative for CD31, desmin, and caldesmon. She was discharged without significant postoperative complications. Thirteen years have elapsed since the surgery, and she remains recurrence-free.

Discussion

Intra-abdominal schwannomas are rare tumors that usually arise in the peripheral nerves of the extremities or the spinal cord; gastrointestinal schwannomas have been reported to occur in the stomach,[3,4] but small intestinal schwannomas are extremely rare and account for only 0.5% of intra-abdominal stromal tumors.[1] Small intestinal schwannomas are most common with women between the age of 30 and 60.[5] Small intestinal schwannomas are sometimes asymptomatic, as in our case,

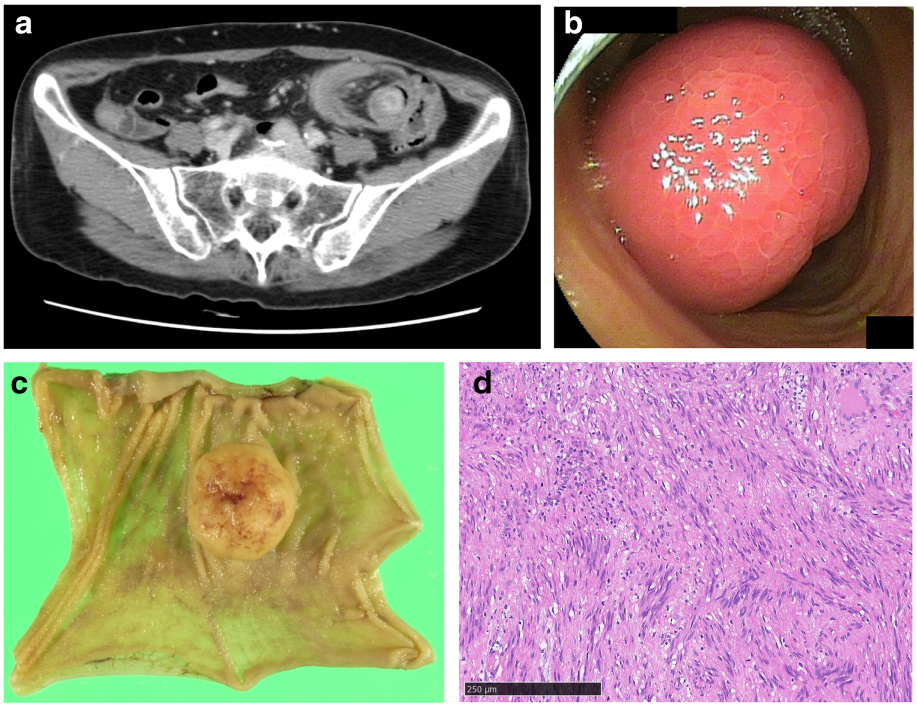

Figure 1 (a) Contrast-enhanced computed tomography scan showing intussusception of small intestine. (b) Double-balloon endoscopy findings: a submucosal tumor was detected in the ileum. (c) Surgical specimens: the tumor was covered by the mucosa of the small intestine, and no ulcers were observed. (d) Histopathological findings revealed relatively uniform spindle-shaped cells.

but many have symptoms of abdominal pain[6] and bleeding.[7] There have been few reports of intussusception due to small intestinal schwannomas, although it is said that asymptomatic cases are often detected incidentally during diagnostic imaging studies.[8] This is because that neurogenic tumors develop under the serosal membrane on the contralateral mesentery and exhibit exophytic growth.[9] Our patient developed intussusception probably because the tumor grew into the lumen of the small intestine and was large. The patient was asymptomatic even though she had intussusception, suggesting that she probably had recurrent intussusceptions that resolved spontaneously and had a chronic course asymptomatically.

Gastrointestinal schwannomas are difficult, if not impossible, to diagnose preoperatively because of nonspecific endoscopic and radiologic findings, which are very similar to those of other submucosal tumors such as Gastrointestinal Stromal Tumors (GISTs) and leiomyomas. It is also difficult to distinguish from malignant schwannomas,[10] and the preoperative diagnosis is uncertain; therefore, the standard treatment is complete surgical resection. In general, the long-term prognosis of schwannoma of the small intestine is good, and no case of recurrence has been reported.[10]

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Informed consent statement

Written informed consent has been obtained from a patient to publish this paper.

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