

Sciatic Hernia with an Early-stage Adenocarcinoma of the Appendix: Report of a case

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ABSTRACT

Sciatic hernia and early-stage appendiceal adenocarcinoma are rare disorders. We report herein a case of an early stage of appendiceal adenocarcinoma found incidentally during an operation for sciatic hernia. An 80-year-old woman was admitted to our hospital with abdominal distension. Abdominal computed tomography showed a small bowel obstruction and a small bowel loop through the right sciatic foramen outside the pelvic cavity. During an operation for the repair of the sciatic hernia, a deformed appendix was found incidentally and a simple appendectomy was also performed. Histological examination of the excised appendix showed well-differentiated adenocarcinoma confined to the mucosal layer in a tubulo-villous adenoma. At 13-month follow-up, the patient is doing well without evidence of recurrence or metastasis.

Key words: Sciatic hernia, Appendiceal cancer, Tubulo-villous adenoma

Sciatic foramina are unusual sites for herniation of an intestinal loop or a pelvic organ. Clinical presentation in patients with sciatic hernia, which is a rare disease, includes intestinal obstruction^{3,6}. Appendiceal cancer accounts for only 1.4-2.2% of all large bowel cancers, and most patients with appendiceal cancer have been in the advance stage at diagnosis. There have been few reports of cases of appendiceal cancer in the early stage, due to the difficulty in preoperative diagnosis of early appendiceal cancer⁵. We herein report a case of sciatic hernia with early appendiceal cancer that was found incidentally during an operation for sciatic hernia.

CASE REPORT

An 80-year-old woman was admitted to our hospital complaining of abdominal distention and vomiting lasting for two weeks. In addition, she had felt a repeated pain radiating to the dorsal site of the right thigh. Physical examination revealed abdominal distension without tenderness, and accelerated bowel sounds. Laboratory data were within normal ranges, and both white

blood cell count and the serum level of C-reactive protein were also within normal ranges. An abdominal X-ray showed gaseous distension of the small bowel. Computed tomography (CT) demonstrated a small bowel obstruction and a small bowel loop through the right sciatic foramen outside the pelvic cavity. The small bowel loop herni-



Fig. 1. CT image showing the small bowel loop (arrow) through the right sciatic foramen. This finding suggested small bowel obstruction due to incarcerated sciatic hernia.

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ated between the small and middle gluteal muscles (Fig. 1). There was no ischemic change in the wall of the small intestine. Moreover, CT showed

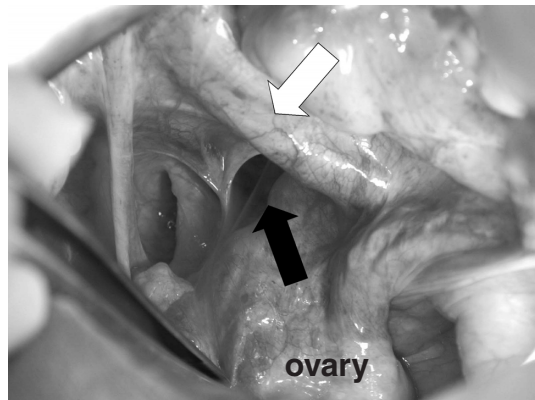


Fig. 2. Transabdominal surgical approach. The hernia sac was detected through the right sciatic foramen (arrow). The open arrow shows the right external iliac artery.



Fig. 3. Macroscopic appearance of the excised appendix, 2.5 cm in length.

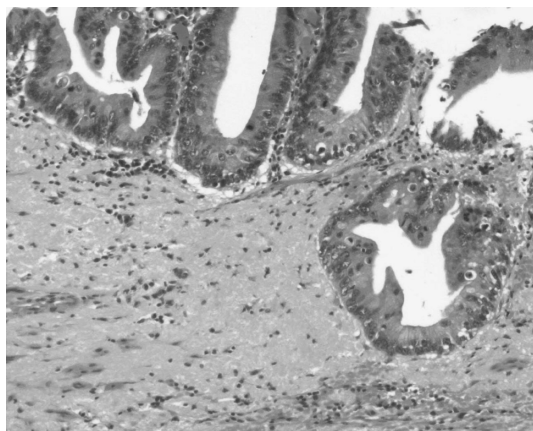


Fig. 4. Histological findings of the appendix revealing well-differentiated adenocarcinoma confined to the mucosa. HE stain.

no abnormal findings of the appendix. Based on these findings, although the patient was diagnosed as having a small bowel obstruction due to incarcerated sciatic hernia, it was not necessary for the patient to undergo both an emergent operation and insertion of a long tube for drainage.

An operation was performed after four days of fasting. When the peritoneal cavity was entered, dilatation of the small bowel had already been relieved. The hernia sac was found through the right sciatic foramen (Fig. 2). The hernia sac was excised and the right sciatic foramen was covered by the right ovary. In addition, the appendix was shortened and deformed, suggesting appendiceal cancer (Fig. 3). A simple appendectomy was performed. Histological examination demonstrated well-differentiated adenocarcinoma in a tubulo-villous adenoma (Fig. 4). The cancerous lesion was found superficially in the mucosal layer without regional lymph node metastasis and there were no cancer cells at the site of the surgical margin.

The patient had an uneventful postoperative course and is doing well without evidence of recurrent hernia or recurrent cancer at 13-month follow-up.

DISCUSSION

Sciatic hernia is also known as sacrosiatic hernia, ischiatic hernia, gluteal hernia, hernia incisurae ischiadicae, and ishiocoele¹. These hernias are one of the most uncommon forms of internal hernia, and about 80 cases have been documented in the English literature^{7,12}. Sciatic hernia is a protrusion of the peritoneal sac through the greater or lesser sciatic foramen.

The clinical symptoms of sciatic hernia depend on the hernial content and its pressure effect upon the sciatic nerve. The hernia sac may contain the small bowel, urinary bladder, ovary, ureters, Meckel diverticulum, or colon⁷. The dominant symptoms are usually lower abdominal cramps, intestinal distension and pain radiating to the dorsal site of the thigh. Nausea and vomiting may occur when complicated with incarceration or strangulation. Our patient presented with symptoms of small bowel obstruction complicated with incarceration and compression of the right sciatic nerve.

Abdominal CT is useful in patients suffering from small bowel obstruction due to sciatic hernia and can clearly reveal the hernial contents. The usefulness of barium study or herniography has been reported, but these methods are invasive¹². Transgluteal ultrasonography is also a useful technique that can be performed at the bedside in an emergency room. An edematous and dilated bowel loop can be seen between the inferior border of the iliac bone and lateral margin of the sacrum¹².

Symptomatic sciatic hernias should be operated on as soon as possible. A transabdominal approach

is recommended in patients who have presented with a small bowel obstruction, especially when incarceration or strangulation is suspected. A transgluteal approach makes it difficult to resect the ischemic or necrotic small bowel successfully. On the other hand, uncomplicated or reducible hernias may be treated after radiological diagnosis and adequate preparation. It was suspected that the patient had sciatic hernia complicated with incarceration, but it was not necessary to perform an emergent operation because of the presence of flatus, no abdominal tenderness and normal laboratory data, resulting from incomplete incarceration. A small hiatus of a hernia may be closed with a Marlex mesh plug, but fascial flaps or prosthetic mesh are recommended for the repair of a larger hiatus¹. In this case, considering the risk of postoperative infection, we used the right ovary to reconstruct the sciatic foramen instead of a mesh plug or mesh seat. A laparoscopic approach for this type of hernia may be an alternative to open surgery for an experienced laparoscopic surgeon.

Primary appendiceal adenocarcinoma is a rare disorder. Collins reported that only 57 cases of primary appendiceal adenocarcinoma were found in 71000 human appendix specimens (0.08%)². Villous adenoma of the appendix is also rare. Schmutzer et al reported that the incidence of appendiceal tumor was 1.1% and that only two cases of villous adenoma were found in 8699 appendectomies⁹. However, in situ malignancy was found in 22 of 35 cases of villous adenomas of the appendix⁴. The patient presented here had well-differentiated adenocarcinoma of the appendix combined with tubulo-villous adenoma.

Preoperative diagnosis of early appendiceal carcinoma is difficult. Vanessa et al reported two cases of early-stage adenocarcinoma in adenoma of the appendix¹⁰. Screening colonoscopy with no symptoms resulted in the detection of early-stage appendiceal cancer in both patients. Pickhardt et al. reported that a focal soft-tissue mass involving the appendix without mucocele formation was the most characteristic finding on CT⁸. There are no specific symptoms for appendiceal cancer. Most symptoms result from concomitant disease, such as acute appendicitis, chronic recurrent appendicitis, peritonitis due to perforation of the appendix, and intussusception². Hata reported that accurate diagnosis of early appendiceal cancer was made in only 26% of cases⁵.

Treatment of early-stage appendiceal cancer is controversial. Some investigators have proposed that simple appendectomy is the treatment of choice and that right hemicolectomy should be performed when the presence of cancer is strongly suspected. Others reported that well-differentiated adenocarcinoma invading the submucosa or adenocarcinoma of any differentiation confined to the mucosa should be treated with simple appendecto-

my alone¹⁰. In our case, during the operation for sciatic hernia, a deformed appendix was found incidentally and simple appendectomy was performed. The diagnosis of appendiceal adenocarcinoma was made postoperatively by histological examination. Considering the patient's age and general condition, an additional operation was not performed.

We added appendectomy at the operation for sciatic hernia because the appendix was short and deformed. Consequently, removal of an appendix with an unusual appearance, such as the shortness and deformity presented in this case, resulted in avoiding the unfortunate leaving behind of cancer tissue. Our rare experience suggested that an appendix with an unusual appearance found incidentally during abdominal surgery should be removed because of the possibility of appendiceal cancer.

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