Abscessed Leiomyosarcoma of the Ileum

Tatsuya HONDA, Minoru KONAGAYA, Jun AOKI, Yoshiyuki MIYAZAWA, Rikako MORITA, Satoshi NAKAZAWA, Yoshihiro TEI, Shigeru HARASAWA, Takeshi MIWA, Jinichi SOEDA* and Takashi NOTO*

Department of Internal Medicine, School of Medicine, Tokai University
*Department of Surgery 2, School of Medicine, Tokai University
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A 49-year-old man was admitted because of a lower abdominal mass. During the five days prior to admission, he had noted fever and lower abdominal pain. Palpation of the abdomen revealed a tender mass, 10 cm in diameter, in the suprapubic region. An x-ray revealed an irregular collection of gas, 9 cm in diameter, in the pelvic cavity, which appeared as a mirror image when the patient was upright. Based on the physical finding and the results of a barium enema, abdominal CT, MRI, and small intestine imaging, a diagnosis of leiomyosarcoma of the ileum was made. Excision of the tumor and part of the small intestine was performed. A saccular tumor, 11 × 6 × 5 cm, was found 1.0 m from the cecum and growing out of the wall of the ileum. A large amount of pus was found inside the cavity. The pathological diagnosis was leiomyosarcoma.

(Key Words: leiomyosarcoma, ileum, abscess)

INTRODUCTION

Tumors originating in the small intestine are rare, accounting for only 0.5% of all gastrointestinal tumors, but about 20% of them are leiomyosarcoma. Almost all are abscessed (1). Recently we had a patient was presented with fever due to an abscessed intestinal mass. The evaluation of a battery of tests permitted the preoperative diagnosis of leiomyosarcoma.

CASE REPORT

A 49-year-old Japanese man was admitted because of a lower abdominal mass. During the five days prior to admission, he had fever and lower abdominal pain. There was no history of gastrointestinal tract disease.

Physical examination revealed a well developed but weak man with a temperature of 37.9°C. Blood pressure was 110/60 mmHg, the pulse 80/min. Palpation of the abdomen revealed a tender mass, 10 cm in diameter, in the suprapubic region. Digital rectal examination located a mass on the outer wall at 1 o’clock. There was no pretibial edema, and no neurological abnormality.

Laboratory data at the time of hospitalization: (Table 1) In blood tests there was leukocytosis, with a shift to the left; a rise in sedimentation; and an abnormally high CRP value. Tumor markers were within normal limits.

Abdominal X-Rays: An irregular collection of gas, 9 cm in diameter, was seen in the pelvic cavity in the dorsal decubitus position, which appeared as a mirror image when the patient was upright (Fig. 1). No abnormality was found in chest X-rays. Barium enema: An image of marked opressed area was seen from the rectum to the sigmoid colon, but no other abnormality was detected.

Abdominal CT: A mass accompanied by irregular cavitation was found in the pelvic cavity and the inner cavity was seen as a low absorption area with small air bubbles (Fig. 2).

Abdominal MRI: With the T1 weighted im-
age, a mass with irregular cavitation was found in the pelvic cavity, and the wall had a signal strength comparable to muscle tissue. (Fig. 3) Small intestinal imaging: Flow of the medium from the ileum to the inside of the cavity of the mass was seen which indicated a fistula. **Angiography:** With selective superior mesenteric arterial imaging, the tumor stained in a position corresponding to where the medium had collected in the mass during small intestinal imaging (Fig. 5).

From the above findings the diagnosis of "leiomyosarcoma of the ileum with abscess" was made. With the abdomen opened, a saccular tumor, $11 \times 6 \times 5$ cm, was found 1.0m from the cecum (oralside), and was a growth on the outer wall of the ileum. A large amount of pus was found inside the cavity. (Fig. 6). No definite infiltration of the surrounding tissue was found. During the operation, approximately 5 cm of the ileum was removed and an end-to-end anastomosis performed. The tumor was then

### Table 1 LABORATORY DATA ON ADMISSION

<table>
<thead>
<tr>
<th>Hematology</th>
<th>Blood chemistry</th>
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<tr>
<td>WBC 16600/mm$^3$</td>
<td>T.P 5.8 g/dl</td>
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<tr>
<td>RBC $390 \times 10^4$/mm$^3$</td>
<td>Albumin 3.4 g/dl</td>
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<td>Hb 13.0 g/dl</td>
<td>GOT 21 U/l</td>
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<td>Hct 38.6 g/dl</td>
<td>GPT 65 U/l</td>
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<td>Plate $41.8 \times 10^4$/mm$^3$</td>
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<td>ESR 73mm/hr</td>
<td>ALP 198 U/l</td>
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<td>CRP 14.2mg/dl</td>
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<td>Coagulation study</td>
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<tr>
<td>Protein (-)</td>
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<td>CEA 4.8 ng/ml</td>
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<td>CA19-9 8 U/ml</td>
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*Fig. 1 Abdominal films. Left: soft tissue mass above the bladder. Right: Patient upright. Fluid level near the soft tissue mass.*
Fig. 2  CT: soft tissue pelvic mass with mixed attenuation, containing embedded bubbles.

Fig. 3  Abdominal MRI: large tumor with cavity. The signal strength of the wall of the tumor approximately equivalent to muscle tissue.
Fig. 4 Small bowel radiography showing flow of contrast medium from the ileum to the inside of the cavity.

Fig. 5 Capillary phase image of the superior mesenteric artery angiography revealing the tumor stain.
excised from the ileum. Pathologically, a nodular proliferation of spindle-shaped cells and some nuclear division found (Fig. 7). Currently, seven months postoperatively, no recurrence has been seen.

**DISCUSSION**

Tumors originating in the small intestine are rare, making up only 0.5% of all gastrointestinal tumors. Very few of these are malignant, and of those that are, about one quarter are leiomyosarcomas. Reports of leiomyosarcoma have increased in recent years, reaching a total 464 by 1986. The average age of incidence is 50 to 60 years, and they are slightly more prevalent in males (1, 3, 7, 8, 11). The areas
of occurrence of the tumors are: the stomach (65%); the small intestine (25%); the colon (3%); and the rectum (7%). Of the small intestinal tumors, three quarters originate in the jejunum, especially within 60 cm of the Tritz ligament (2, 6). They are classified as intramural, internal, external, and bidirectional, according to the direction of development. Slightly over 90% of the leiomyosarcomas were of the external growth type (9). Clinical symptoms include “mass palpation”, “abdominal pain”, and “bleeding”. These symptoms are due to difficulty in the passage of the ileus.

There are no unique symptoms in most cases. The patient is asymptomatic until the tumor becomes large and ischemia causes central necrosis (2, 5, 7, 8, 10). Even with the leiomyosarcomas, cavitation is associated with tumor size, and develops in 2/3 (5, 7, 9, 11). Preoperative diagnosis is infrequent (less than 5%) because examination of the small intestine is difficult with endoscopy or imaging.

Our patient presented with fever of unknown origin and lower abdominal pain as his chief complaint. The symptoms and signs of marked inflammation, plus abdominal ultrasonography and CT, led to the diagnosis of a giant tumor in the pelvic cavity. Other possible causes, such as peripheral abscesses due to appendicitis, Meckel’s diverticulitis, and an abscess occurring inside the cavity of a leiomyosarcoma, were also considered. The diagnosis was difficult because of the marked edema surrounding the lesion. It is felt that examination of the pelvic area with small intestinal imaging and the characteristics of MRI and angiography were very useful for the diagnosis (5, 7). During the first week of antibiotic administration, puticular feces were excreted; an antipyretic tendency was seen; and the lower abdominal pain disappeared. Abscessed leiomyosarcomas, inflamed and containing pus, have been found in some cases, but there has not been any case report of concurrent abscesses as occurred in our patient. Few cases of leiomyosarcoma are detected early because the diagnosis is so difficult. This allows the disease to progress, usually resulting in a poor prognosis (2, 4, 8, 10). In most cases, the course in asymptomatic, but as the disease worsens, symptoms appear. Perforating peritonitis and large scale gastrointestinal hemorrhage have led to the discovery of some reported cases. Anatomically, the small intestine presents difficulty in diagnosis, compared with the other parts of the digestive tract, and is the reason that most cases of this tumor have been discovered after a lengthy progression. The frequency of malignant tumors in the small intestine is rare, but at present the number of cases seems to be increasing. Further improvement in diagnostic techniques are expected to result in earlier detection of small intestinal tumors, and therefore a better prognosis.

REFERENCES