Liposarcoma of the Colon: A Case Report and Review of the Literature

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Liposarcoma is a malignant mesenchymal tumor frequently located in the retroperitoneum and rarely presents as an isolated lesion in the colon. To our knowledge, only three cases of primary colon liposarcoma have been reported in the world literature to date. In this article, we report a case of liposarcoma of the colon in a 46-year-old man. The patient presented with abdominal pain and a palpable mass. Abdominal ultrasonography and computed tomogram confirmed the presence of a large intra-abdominal fatty tissue mass, but the colon origin of the tumor was revealed only on laparotomy. During surgery, a voluminous (12 cm \times 11 cm \times 10 cm) lesion situated in the subserosa of the ascending colon was found, and a right hemicolectomy with radical lymph node dissection was performed. The pathological diagnosis of the resected tumor revealed primary colon liposarcoma (myxoid subtype). The postoperative course was uneventful, and the patient remained free of disease for 12 months. No adjuvant therapy was performed.

Diagnostic and therapeutic problems related to this type of neoplasm as well as literature reviews are reported. Curative R0 resection remains the main treatment for primary and recurrent liposarcomas.

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Key words: Colon, liposarcoma, mesocolon

CASE REPORT

A 46-year-old man with abdominal pain was admitted to the hospital. His previous history, as well as family history, was unremarkable. Physical examination revealed a large soft mass palpable in the right half of the abdomen (in the right lower quadrant).

Laboratory data on admission were within normal limits. The tumor markers, including carcinoembryonic antigen (CEA), CA 125, and CA 19.9 were normal. An abdominal ultrasound showed the presence of a hyperechoic mass with well-defined margins in the right abdomen. A computed tomography (CT) scan showed a homogeneous, smoothly outlined, low attenuation mass (22–25 UH; Fig. 1). A tentative diagnosis of intra-abdominal fat-containing tumor (lipoma, liposarcoma) without regional or distant metastases was made.

A laparotomy was performed with a midline incision. No ascites or peritoneal dissemination was
observed. The tumor was situated in the subserosa of the ascending colon, had a diameter of 11 cm, and showed well-defined borders. There were some enlarged lymph nodes in the colonic mesentery, but the paraaortic and superior mesenteric nodes were not involved. The patient underwent a right hemicolectomy with radical lymph node dissection.

Macroscopic examination of the specimen revealed a yellowish capsulated mass measuring 12 cm × 11 cm × 10 cm (Fig. 2, A). The mass was located in the subserosa of the ascending colon, and colonic mucosa was not involved by the tumor at any place in the resected specimen (Fig. 2, B). Pathologic examination revealed myxoid-type liposarcoma of the colon (Fig. 3). There was no evidence of necrosis, vascular invasion, or lymph node metastases.

The postoperative course was unremarkable, and 12 months after the operation, the patient was well without evidence of disease.

DISCUSSION

The first case of primary liposarcoma of the colon was reported by Wood and Morgenstern. Since then, only three well-documented cases, including our patient, have been reported. The clinicopathologic characteristics of these four reported cases are summarized in Table 1.

From a histopathologic point of view, these neoplasms take their origin from primitive mesenchymal cells and are rarely encountered in fat-rich areas such as the subserosa of the intestinal tract. In the recent World Health Organization classification, liposarcomas are divided into five major histological subtypes: atypical lipomatous tumor (well-differentiated liposarcoma), myxoid liposarcoma, pleomorphic liposarcoma, dedifferentiated liposarcoma, and mixed type liposarcoma. The well-differentiated type occurs in 40%–45%, the myxoid in 35%–40% and the pleomorphic in 5% of all the liposarcomas. Only three histopathologic subtypes of colon liposarcoma were described to date: well differentiated (case 3), the myxoid type (cases 1 and 4), and the pleomorphic type (case 2). According to the WHO classification (2002), the definition of myxoid liposarcoma is “neoplasms composed of uniform round to oval shaped primitive nonlipogenic mesenchymal cells and a variable number of small signet-ring lipoblasts in a prominent myxoid stroma with a characteristic branching vascular pattern.” Our case satisfies these criteria and is thus considered as a primary liposarcoma of the colon.

The primary liposarcoma of the colon tends to occur in adults (mean ± SD age of 51.2 ± 3.9 years; range, 45–62). In general, liposarcoma occurs almost exclusively in adults, with a peak incidence between the 5th and 6th decades. Surprisingly, in all previously reported cases, these neoplasms predominantly affect female patients, which is not consistent with the slight male predominance observed in the soft tissue liposarcomas. Our report represents the first case of primary colon liposarcoma in a male patient.

Most tumors (75%) were located in the right colon. The size and growth pattern of primary colon liposarcoma influence the clinical presentation. In the reported cases, the symptoms are variable, nonspecific, and include abdominal pain, diarrhea, weight loss, anemia, and hematochezia. An abdominal mass may be palpable.

The optimal diagnostic program for colon liposarcoma cannot yet be defined due to the small number of published cases. Endoscopy can highlight a polypoid submucosal mass. Studies based on CT and magnetic resonance (MR) imaging of liposarcomas demonstrated the correlation of the histological subtypes of these neoplasms with the radiological findings. CT density and MR signal reflect the amount and distribution of fat in the neoplasms. Tumors of higher histological grade are more vascular and contain less fat. Myxoid, pleomorphic, and round cell liposarcomas have little fat and simulate other partly necrotic nonfatty tumors. In our case, CT scan confirmed the presence of a large intraabdominal fatty tissue mass but did not show broad fixation of the tumor to the wall of the colon. To the best of our knowledge, the CT appearance of primary colon liposarcoma has not been previously described in the literature, so accurate preoperative diagnosis is not possible in all cases, and only surgical resection and histopathologic examination are...