ATYPICAL DESMOID TUMOR OF THE ABDOMEN: A CASE REPORT

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Desmoids are rare lesions that are histologically benign but locally aggressive. These lesions should be considered in patients who present with abdominal masses, particularly if there is a prior history of familial polyposis. This case report describes a patient with an abdominal desmoid that demonstrated atypical features on computed tomography and correlative magnetic resonance images. (*J Natl Med Assoc.* 1993;85:309-311.)

Key words • abdominal desmoid • Gardner's syndrome

Abdominal desmoids are rare and not extensively discussed in the radiologic literature. As of 1989, less than 2000 cases had been reported in the literature.[1] The largest series of patients studied with computed tomography (CT) was reported by Einstein et al.[2] These lesions may occur in a variety of locations, including the mesentery, retroperitoneum, and abdominal wall. Initial diagnosis is most commonly made with CT scanning, which also may be used to monitor the response of the lesions to therapy. This article describes an atypical case of abdominal desmoid.

CASE REPORT

An 18-year-old mentally retarded male was admitted with complaints of weight loss, vomiting, and suprapubic mass of approximately 6 months duration. Physical examination revealed an emaciated patient with a large, firm, tender suprapubic mass. There was no known history of familial polyposis or other conditions that predispose to desmoid tumor. Laboratory studies showed normal electrolytes and renal function tests but a low serum albumin level. A plain radiograph of the abdomen demonstrated a large lower abdominal/upper pelvic mass causing superior displacement of adjacent bowel loops (Figure 1).

A CT scan and magnetic resonance imaging (MRI) of the abdomen and pelvis were obtained for further characterization of the mass. The CT scan demonstrated a mass of primarily soft tissue density with a central area of low attenuation and several calcifications (Figure 2). The mass appeared to arise from the mesentery. There was no evidence of intra-abdominal or retroperitoneal adenopathy. The T1-weighted coronal MR image demonstrated a mass of intermediate signal intensity causing displacement of both the common and internal iliac arteries (Figure 3). The mass was of inhomogeneous signal intensity on the T2-weighted images (Figure 4). An abdominal aortogram was requested by the consulting surgeon and demonstrated arterial supply primarily from both internal iliac arteries (Figure 5). The mass caused displacement of the inferior mesenteric artery, as well as both the common and internal iliac arteries. Common clinical complications, such as hydronephrosis or small bowel obstruction, were not present. The differential diagnoses for this mass include teratoma, leiomyoma, sarcoma of undetermined histogenesis, and abdominal desmoid.

At laparotomy, a mass with a pedicle from the lower greater omentum was observed (Figure 6). A wide surgical resection was performed. No mesenteric adenopathy, ascites, or peritoneal implants were identified. The gross specimen measured 12.6 cm × 12 cm. Section of the mass revealed a desmoid-type fibrous tumor with no true capsule. A pathologic diagnosis of desmoid tumor of the abdomen was reported. The patient tolerated the surgical excision of the mass without complication and was discharged home to the care of relatives.

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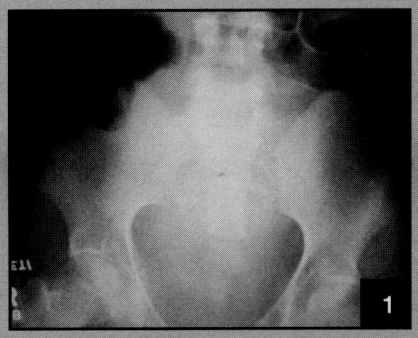
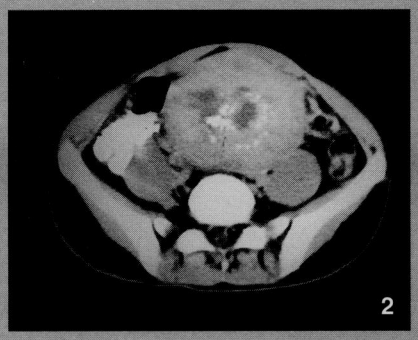
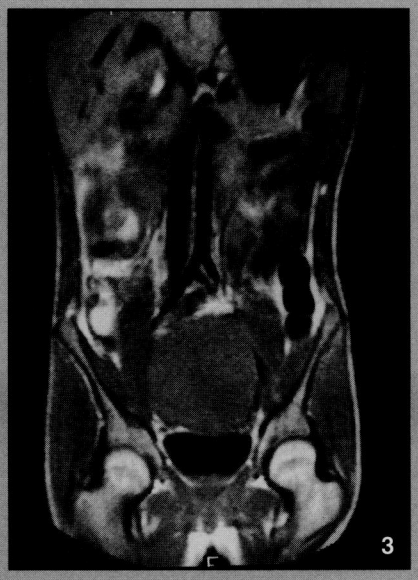
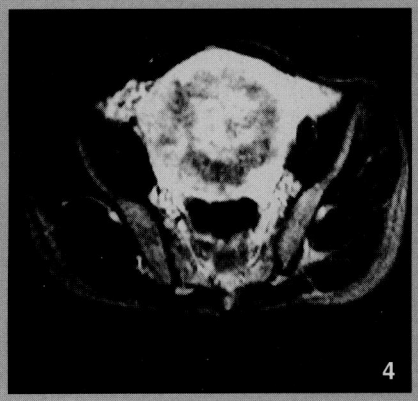
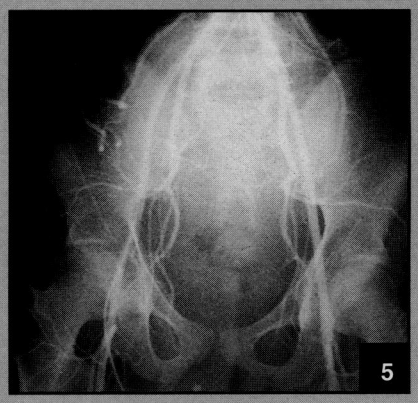
Figure 1. A plain abdominal film demonstrated a mass in the lower abdomen/upper pelvis. **Figure 2.** Contiguous transaxial CT images revealed a soft tissue mass with central necrosis and scattered calcifications. **Figure 3.** T1-weighted coronal MR image demonstrates a mass of intermediate signal intensity displacing both the common and internal iliac arteries. **Figure 4.** T2-weighted axial MR image demonstrated a pelvic mass of inhomogeneous signal intensity. **Figure 5.** An abdominal aortogram revealed the vascular supply primarily from branches of both internal iliac arteries. **Figure 6.** The gross specimen removed at surgery was attached to the inferior portion of the greater omentum.











DISCUSSION

Primary peritoneal, omental, and mesenteric tumors are rare. Solid omental and mesenteric tumors have similar pathologic features and may arise from any elements found in these structures. Solid peritoneal tumors can occur at any age and can be either benign or malignant.[3,4]

Abdominal desmoid tumors arise from fibrous elements within the mesentery or interior abdominal wall musculature. Histologically, desmoids are part of a larger group of benign fibrous lesions, fibromatose tumors, which do not metastasize.[5] Therefore, desmoids are classified as benign lesions.[6] Although these tumors can occur as isolated lesions, they have been reported in association with familial polyposis and postcolectomy in patients with Gardner's syndrome. The tumor is more common in women, with a female:male ratio of 3:1, and the etiology is unknown.[7] Desmoid tumors are not encapsulated and vary widely in size.

Patients have few symptoms until the tumor reaches a size large enough to cause abdominal fullness, a pressure sensation, or partial bowel obstruction. The tumor can locally invade adjacent structures. Local recurrence occurs in 50% of patients despite radical surgical therapy. Wide surgical resection is the treatment of choice. Radiation therapy and/or chemotherapy demonstrate no benefit.[8]

Radiographically, desmoid tumors appear as abdominal masses that displace adjacent bowel loops. Mesenteric infiltration may be seen on barium examinations as retraction, angulation, and distortion of small or large bowel. Computed tomography images typically demonstrate desmoid tumors as solid, well-circumscribed masses of soft tissue density that do not contain

calcium. Our patient presented with a mass containing a central area of low attenuation and associated calcifications.

A desmoid tumor has low signal intensity on T1-weighted MRI and remains low in intensity on T2-weighted images. This finding is caused by the fibrous content of the tumor.[9] The desmoid tumor described here demonstrated intermediate signal intensity on T1-weighted images and inhomogeneous signal intensity on T2-weighted images. On ultrasonography, these tumors are fairly well demarcated masses, having occasional dense internal echoes.[7]

Angiography is important in planning surgery to know if the tumor affects the omentum primarily or secondarily.[10]

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