Osteosarcoma Presenting as Intestinal Obstruction

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Osteosarcoma commonly presents with osseous and pulmonary metastases. We present an unusual case of extraosseous metastatic abdominal chondroblastic osteosarcoma presenting as intestinal obstruction.


Bone scintigraphy plays an important role in initially evaluating patients with primary bone tumors, as well as detecting metastases and evaluating the effectiveness of therapy. There is, however, controversy about the importance of bone scintigraphy in the initial staging and follow-up of osteosarcoma (1). Some authors suggest that there are many false-positives due to the spectrum of benign and malignant lesions (2). However, many others have documented its usefulness (3–5). Multiple intense lesions that look like an “ink blot” describe a bone scan pattern that occurs in some metastatic osteosarcomas (6).

Osteosarcoma can present in a variety of ways. We present a case of a patient with osteosarcoma where the initial clinical presentation was related to an intestinal obstruction secondary to extraosseous abdominal metastases.

CASE REPORT

A 50-yr-old Hispanic male presented to the emergency room with abdominal pain and symptoms of intestinal obstruction. An acute abdominal series revealed multiple opaque 1–3 cm masses mimicking ingestion of radiopaque material (Fig. 1). Thoracic and abdominal CT revealed multiple osseous abdominal lesions (not shown).

Conservative measures did not relieve the bowel obstruction. Surgery revealed multiple calcified 1–3 cm masses throughout the abdomen. One of the masses caused the bowel obstruction and preliminary histology revealed bony tissue. Surgery relieved the bowel obstruction.

Several days following the operation, a whole-body bone scan was performed to identify the source and extent of metastases. Multiple irregular, intense lesions (“ink blot” pattern) (6) were identified in the abdomen and pelvis (Fig. 2). The marked intensity of the uptake suggested a metabolically active osseous origin, most likely osteosarcoma. Bony lesions were also seen in the proximal humeri and left hip. The surgeon felt that left hip lesion was the site of the primary neoplasm.

One week after the operation, pathology results revealed calcified nodes and tissue intermixed with mesenteric adipose tissue. Microscopic examination showed chondroid differentiation (not shown). The final diagnosis was consistent with osteosarcoma.

DISCUSSION

Osteosarcoma primarily affects young adults, occurring most frequently before age 30, with a second peak in the fifth and sixth decade. There is a female predominance. The primary lesions usually occur in the metaphysis of long bones at the distal femur and proximal ends of the tibia and humerus. However, they may arise from any portion of the bone or even soft tissues. The many varieties of osteosarcoma are beyond the scope of this paper to review, however, Edeiken-Monroe et al. provide a good review (7).

Secondary extraosseous metastases most often occur in the lungs (commonly seen in ~80% of cases) (8–23), kidneys (3–29) and even the heart (28,29). Metastatic abdominal osteosarcoma is, however, rare (17,19,30–32) and multiple abdominal metastases are rarer (15,34). In this case of
metastatic osteosarcoma presenting as an intestinal obstruction, bone scintigraphy detected the extent of the disease and suggested the diagnosis before pathology results were available.

REFERENCES


FIGURE 2. Whole-body bone scan anterior and posterior passes. (A) Anterior pass and (B) Posterior pass.