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Case Report

Liposarcoma of the thigh with mixed calcification and ossification

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ABSTRACT

Liposarcoma is one of the most common soft-tissue sarcomas. Calcification and ossification can occur in liposarcoma; however, the presence of both ossification and calcification is a very rare entity. We present a case of a partially calcified and ossified dedifferentiated liposarcoma of the thigh in a 76-year-old woman, which contained heterologous elements of chondrosarcoma and rhabdomyosarcoma.

Case report

A 76-year-old woman presented for evaluation of asymmetrically enlarged left thigh mass noticed by a home health provider in August 2015. The patient had not noticed the asymmetry herself but did report severe left thigh pain 2 months before presentation. Her mobility was limited by pain necessitating use of a walker or wheelchair. She denied preceding injury or trauma. Medical history was significant for stroke in 1998, hypertension, and hyperlipidemia.

In August 2015, multimodality imaging assessment of the left thigh was performed. Plain radiography (Fig. 1) demonstrated a complex mass in the anterior thigh with proximal fatty and distal soft-tissue components. The predominantly fatty component contained mature ossification, whereas the soft-tissue component contained amorphous calcification. Focal erosion of the anterior cortex of the distal femoral diaphysis in the region of the soft-tissue component was present. Computed tomography (CT) of the left thigh without intravenous contrast (Fig. 2) performed at an outside institution demonstrated a complex mass in the anterior compartment of the left thigh measuring 11 × 7 × 24 cm. The mass contained a lipomatous component proximally and a large soft-tissue component distally. The

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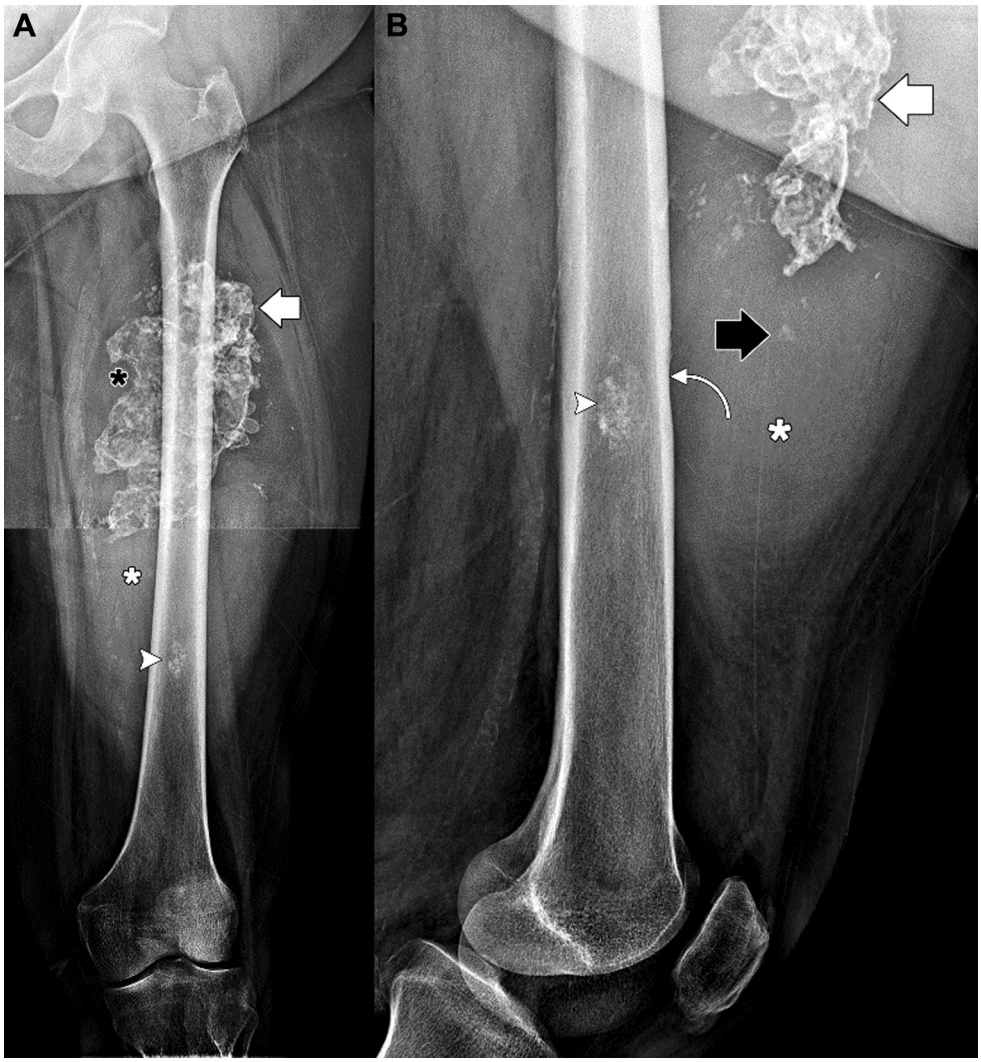

Fig. 1 – Composite anteroposterior (A) and magnified lateral (B) views of the left femur show a complex mass with proximal fatty (black *) and distal soft-tissue (white *) components. The predominantly fatty component has mature ossification (white arrows), whereas the soft-tissue component has amorphous calcification (black arrow). There is focal erosion of the anterior cortex of the distal femoral diaphysis (curved arrow) in the region of the soft-tissue component. An intramedullary lesion with chondroid matrix calcification (white arrowhead) represents an incidental enchondroma.

lipomatous component contained areas of mature ossification, and the soft-tissue component contained scattered amorphous calcifications. Subtle erosive changes were present along the midfemoral diaphyseal cortex. Magnetic resonance imaging (MRI) without and with intravenous contrast (Fig. 3) performed at an outside institution demonstrated the mass in the anterior compartment of the left thigh with a lipomatous component with thick enhancing septations proximally and a solid enhancing component distally. Central areas of low signal within the lipomatous component corresponded to the areas of ossification identified on CT.

Late in August 2015, the patient was referred to our institution for additional workup and treatment. Fine-needle aspiration of the distal, solid component performed in September 2015 was reported as high-grade sarcoma possibly dedifferentiated liposarcoma. Core needle biopsy of the solid component on the following day was reported as high-grade spindle-cell sarcoma with suggestion of dedifferentiated liposarcoma. In October 2015, the patient underwent radical resection of the tumor with pathology demonstrating dedifferentiated liposarcoma with heterologous elements of chondrosarcoma and rhabdomyosarcoma.

The patient had an extended recovery and rehabilitation after surgical resection. Because of the patient's socioeconomic situation, she opted to initially forego treatment with chemotherapy. Her first staging CT of the chest performed in September 2015 was negative for metastatic disease; however, a follow-up CT of the chest in January 2016 demonstrated multiple new pulmonary nodules consistent with metastases. The patient is now scheduled to begin single-agent chemotherapy with doxorubicin.