The case:

A 45-year-old woman presented with a left leg mass and medical history of tibia and fibula fracture due to a motor vehicle accident and multiple surgeries 30 years prior.

Figure: Lateral (A) and AP (B) radiographs of the left leg.

Your diagnosis?

For answer see page 520
Diagnosis: Calcific Myonecrosis
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Figure 1 shows a large fusiform-shaped area of calcification overlying the anterior compartment of the left leg extending from just below the proximal tibiofibular articulation to the level of the distal shaft of the fibula. Magnetic resonance imaging (MRI) showed extensive replacement of the lateral compartment muscles by a central high and peripheral low T1 signal and diffuse low T2 signal tissue (Figures 2, 3). Computed tomography (CT) performed for better characterization of the calcification pattern and distribution demonstrated predominantly peripheral distribution of the calcifications in the muscles of the lateral compartment (Figures 4, 5).

DISCUSSION
The patient presented here had a history of prior motor vehicle accident and multiple surgeries, and the imaging findings are consistent with calcific myonecrosis, particularly in view of an unequivocal history of previous trauma.

Calcific myonecrosis is a rare clinical entity occurring as a late consequence of trauma, usually in the lower limb, although there is at least 1 case report of this entity in the shoulder. It is characterized by the replacement of muscle in 1 or more compartments with a fusiform mass or masses showing peripheral calcification and central liquefaction. Reported cases are related to previous trauma except that occurred in a patient with dermatomyositis. Patients usually report pain, and biopsy is not recommended due to the high risk of infection. The treatment for these lesions is complete excision.

The radiographic findings are char-

Figure 1: Lateral (A) and AP (B) radiographs showing a large fusiform-shaped area of calcification overlying the anterior compartment of the left leg. Figure 2: T1-weighted coronal image showing extensive replacement of the muscle of the lateral compartment of the leg for peripheral areas of low and central areas of high signal intensity (arrows) (A). STIR coronal demonstrating predominant low-signal intensity (arrows) (B). T2-weighted sagittal image without fat signal suppression also showing low-signal intensity (arrows) (C).
acteristic in showing defined heavily mineralized fusiform masses replacing musculature. The 2 main differential diagnoses are sarcomas and myositis ossificans. Sarcomas are aggressive and do not respect compartments. Myositis ossificans presents with a different calcification pattern and ossification over time. Typically when heterotopic posttraumatic ossification develops in a hematoma, it shows a characteristic peripheral mineralization and is unlikely to be confused with calcific myonecrosis.

In the leg, calcific myonecrosis has a predilection for the anterior compartment. Unlike traumatic heterotopic ossification, the pattern of calcification in myonecrosis is linear and sheetlike and typically occupies the entire muscle or compartment. Magnetic resonance imaging may show fluid-filled cystic areas that should not be mistaken for abscesses or necrosis within a heavily mineralized sarcoma.

The proper recognition of calcific myonecrosis is based on the characteristic sheetlike calcification occupying an entire muscle or compartment with areas of central liquefaction, and it is almost always preceded by a remote significant traumatic event.

**REFERENCES**


**Figure 3:** T1-weighted axial image showing extensive replacement of the muscle of the lateral compartment of the leg for peripheral areas of low and central areas of high-signal intensity (arrows) (A). T2-weighted axial image with fat signal suppression showing low-signal intensity (arrows) (B).

**Figure 4:** Coronal (A) and sagittal (B) CT reformats showing predominantly peripheral calcifications in the muscles of the lateral compartment (arrows). **Figure 5:** Axial CT reformat showing predominantly peripheral distribution of the calcifications in the muscles of the lateral compartment (arrows).

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