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# CALCIFIC MYONECROSIS

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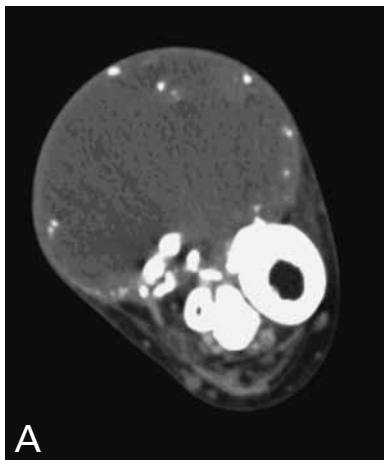
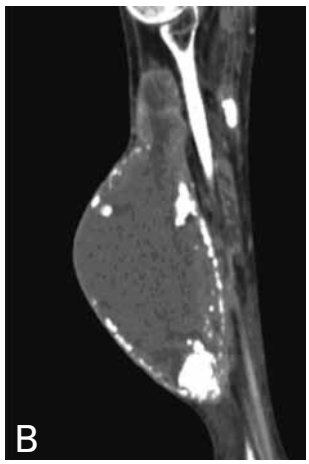
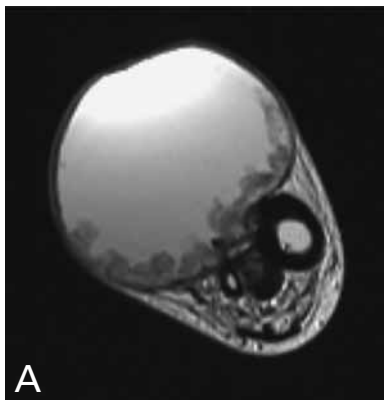
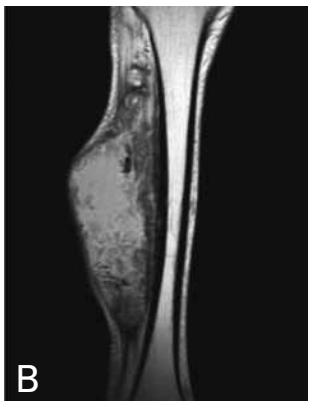
**Key-word: Soft tissues, calcification**

**Background**: A 71-year-old man presented with a slow-growing mass for the past 6 years in the right lower leg. He had a history of a motor vehicle accident as a 12-year-old boy, when a truck ran over his legs. He had already undergone a trans-tibial amputation of the left leg 24 years earlier.




| Fig. | 1 | 2 |
|---|---|---|
| | 3A | 3B |
| | 4A | 4B |

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## Work-up

On in vivo photograph of the right leg (Fig. 1), a mass is present on the anterior-lateral side of the lower leg.

Conventional radiograph of the right lower leg, oblique view (Fig. 2) shows homogeneous mass on the anterior-lateral side with plaque-like and linear peripheral calcifications.

Contrast-enhanced CT scan of the right lower leg (Fig. 3) demonstrates markable muscle atrophy. Both the axial (A) and sagittal (B) views show a cystic lesion in the anterior muscle compartment with peripheral enhancement. Extensive plaquelike and plate-like linear calcifications are seen. Some calcification is also present in-between the tibia and fibula and in the posterior muscle compartment.

MRI of the right lower leg was obtained, with proton density weighted images (Fig. 4) and included axial (A) and coronal (B) views. Muscle atrophy and a hyperintense cystic mass are seen in the right lower leg.

The periphery of the lesion shows an intermediate signal. Areas corresponding with the calcifications on the CT and conventional imaging show a low intensity signal.

## Radiological diagnosis

Because of the clinical history with a major traumatic event and the slow growth of the lesion, the radiological diagnosis *calcific myonecrosis* was made.

## Discussion

Calcific myonecrosis (CM) is a rare late sequela of trauma occurring mostly in the lower extremity. Thereis a high correlation with compartment syndrome, injury to the common peroneal nerve, vascular injuryor a significant closed trauma to the lower extremity without documented compartment syndrome orneurological injury. CM results from cystic degeneration of the muscles usually in the anterior compartment.

Because of the compartment syndrome, ischemia ensues, and leads to necrosis and fibrosis. Thelesion can show growth because of repetitive bleeding within.

The time between injury and diagnosis ranges from 10-64 years. Differential diagnosis includes malignant tumors like synovial sarcoma and soft-tissue osteosarcoma. The mineralization in these lesions tend to be distributed throughout the tumor. Benign lesions like chronic expanding hematoma, post-traumatic pseudoaneurysms and myositis ossificans could also be considered, but have a relative short history after the initial trauma. Dermatomyositis, polymyositis, diabetic myonecrosis also may give extensive calcifications, but show no history of trauma and the patient shows signs of systemic disease.

However, the benign radiological appearance and clinical history usually allows differentiation from malignant masses or masses of other origins.

Surgical intervention, like incision with drainage and excision, is best avoided because of high risk of complications such as secondary infection and formation of fistulas which could lead to amputation.

Conservative treatment is recommended for an asymptomatic lesion. For definitive treatment a complete surgical debridement would be combined with fl ap coverage.

The presented patient was treated conservatively; there was also no biopsy taken. He will be followed-up regularly by the orthopedic surgeon.

## Bibliography

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