Case report 851

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Fig. 1. Plain radiograph of the left hip 4 weeks after the onset of symptoms. A faint soft tissue calcification is demonstrated left of the ischium. No periosteal reaction can be seen.

Fig. 2. Magnetic resonance: coronal T2-weighted spin echo image (TR/TE 2000/90 ms) of the left side of the pelvis, with high signal intensity in the soft tissues due to edema and joint effusion. The lesion gives a circumferential low signal due to the calcified rim (arrows).

Fig. 3. Dynamic bone scan using \textsuperscript{99}Tc-di-phosphonate demonstrates increased activity in the left hip area and to a lesser extent in the whole leg in the blood pool phase (A) indicating increased perfusion. In the late scan (B) a focal ill-defined spot is seen in the soft tissues without bone involvement, raising suspicion of a malignant extraosseous tumor.

Fig. 4. Contrast-enhanced computed tomogram of the pelvis with the lesion in the external obturator muscle mimicking myositis ossificans due to the ring-type calcification forming a cleft towards the ischium. Centrally there is enhancement; decreased density at the periphery indicates edema. Note the involvement of the joint capsule (arrows).
Clinical information

A 17-year-old trained rock and roll dancer had a recent history of pain in his left hip. No antecedent trauma was recalled.

Plain radiography taken in the beginning was unremarkable. A later study revealed a faint circumferential calcification in the soft tissue close to the ischium (Fig. 1). On magnetic resonance imaging (MRI) an inhomogeneous soft tissue mass was demonstrated with high signal intensity in the center on T2-weighted spin echo images, surrounded by a dark rim and a zone of ill-defined increased signal intensity in the musculature. A small amount of joint effusion and a thickened joint capsule were also found (Fig. 2). On T1-weighted images no fat-equivalent area of high signal intensity was visible. The findings were judged to be consistent with the presence of either tumorous or inflammatory tissue.

A bone scintigram with $^{99}$Tc-diphosphonate was performed and showed significantly increased tracer deposition in the blood-pool phase in the soft tissue mass and to a lesser extent in the whole left leg, indicative of increased perfusion (Fig. 3A). The delayed scan demonstrated strong tracer up-take in the mass with ill-defined borders (Fig. 3B). A normal turnover rate was noted in the ischium without any sign of pathologic involvement. These signs were assessed as suggestive of a malignant soft tissue tumor.

Angiography demonstrated neovascularization. Computed tomography (CT) performed about 8 weeks after the onset of the first symptoms showed a tumor with a fairly homogeneous ring-type calcification without a central calcified matrix (Fig. 4). However, contrast enhancement of the tumor and the involvement of the surrounding tissue with thickening of the joint capsule strengthened the suspicion of malignancy. Finally a CT-guided biopsy was taken for histological work-up.