Case 15. Diagnosis

Non-displaced intertrochanteric hip fracture (the occult hip fracture)

Coronal T_1-weighted spin-echo and fast, short tau inversion recovery (STIR) images of the right hip (Figs. 3 and 4 of presentation) reveal a linear band of abnormal signal across the intertrochanteric region of the femur. Edema is present within the subcutaneous fat and gluteal and adductor muscles.

The radiographic features are pathognomonic for a non-displaced intertrochanteric hip fracture. The patient was successfully treated with internal fixation.

Establishing the diagnosis of a non-displaced hip fracture in the elderly osteoporotic patient may be difficult by plain radiography alone. Until recently, bone scintigraphy has been the imaging modality of choice in this setting, despite delays of as much as 96 hours in achieving a positive result. (CT has never been ideal as scans are obtained parallel to the fracture plane.)

Several studies have shown that magnetic resonance imaging is an excellent aid in rapid detection of the occult hip fracture.[1,2] This avoids costly delays in diagnosis and treatment and unnecessary recumbency and hospitalization of patients awaiting diagnosis.

References

1. Guanche CA, Kozin SH, Levy AS, Brody LA. The use of MRI in the diagnosis of occult hip fracture in the elderly: a preliminary review. *Orthopedics* 1994;17(4):327-30.

2. Haramati N, Staron RB, Barax C, Feldman F. Magnetic resonance imaging of occult fractures of the proximal femur. *Skelet Radiol* 1994;23(1):19-22.

FIG. 3

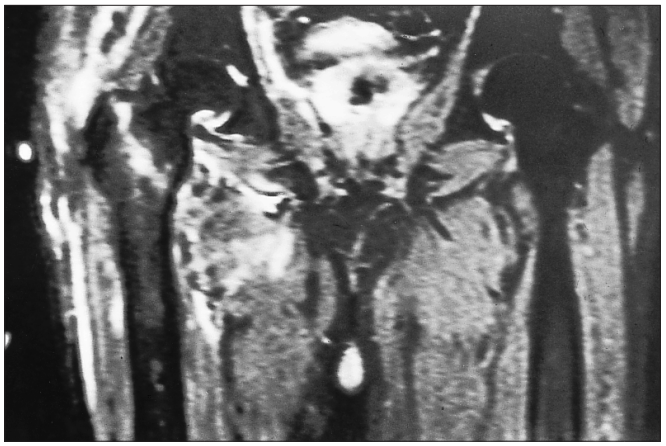

FIG. 4