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An Unusual Case of Polyostotic Fibrous Dysplasia in a 53-Year-Old Woman With Low Back Pain

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Abstract

Objective: The purpose of this case report is to describe the features of an unusual presentation of fibrous dysplasia.

Clinical Features: A 53-year-old woman had low back pain and numbness in the anterior upper left thigh that started 3 years earlier after a fall. She experienced pain during active lumbar flexion and extension range of motion. Radiographic examination demonstrated an oval geographic osteolytic lesion in the left ilium and abnormal trabecular architecture with variable-sized osteolytic lesions and both ill-defined and well-defined borders along the sacroiliac joint margin.

Intervention and Outcome: Because of the aggressive osteolytic appearance, magnetic resonance imaging of the pelvis with gadolinium contrast was obtained for additional characterization of the lesions. There were 3 additional mixed signal lesions located within the left femoral neck and extending to the greater trochanter that enhanced with contrast. Because of the suspicion of malignancy, needle biopsy was performed. The pathologic findings in combination with the radiographic appearance confirmed the diagnosis of polyostotic fibrous dysplasia.

Conclusion: This case demonstrated a rare aggressive appearance of polyostotic fibrous dysplasia located in the left innominate and the left proximal femur that prompted a diagnostic imaging workup and biopsy for suspected skeletal malignancy. These lesions may require careful evaluation by an experienced team of physicians, radiologists, and pathologists to ensure proper diagnosis and treatment.

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Introduction

Pain in the lower back is multifactorial and can be caused by many different conditions, most of which are benign, but some are life-threatening.[1] Estimates of the 1-year incidence of low back pain range between 6.3% and 15.4%,[2] and the lifetime prevalence of low back pain is reported to be as high as 84%.[3] Diagnostic workup of a patient with lower back pain may include a variety of imaging modalities, usually initiated by radiography and, if inconclusive, followed by advanced imaging modalities.[1] The choice of which imaging modality to use generally depends on the patient's differential diagnosis.[1]

Fibrous dysplasia (FD) of bone is a skeletal disorder characterized by extensive proliferation of fibrous tissue in bone marrow, leading to osteolytic lesion, fracture, and deformity.[4] Fibrous dysplasia may affect a single bone (monostotic), numerous bones (polyostotic), or the skull and facial bones (craniofacial). The true incidence and prevalence of FD are difficult to estimate, but the lesions are not rare; they are reported to represent approximately 5% to 7% of benign bone tumors. The clinical presentation of pain occurs more in adults than in children.[5] When bone deformities involve the facial or the cranial bones, neurological compromise may be present. Polyostotic FD most commonly involves the femur, skull, tibia, humerus, ribs, fibula, radius, and ulna.[6] FD has great variability in appearance and has been referred to as one of the "great imitators of bone disease."[6] This makes the potential list of radiographic differential diagnoses extensive. Malignant transformation occurs in 0.5% of cases.[6] The purpose of this case study is to report the findings of a rare aggressive appearance of polyostotic FD located in the left innominate and the left proximal femur that prompted a diagnostic imaging workup and biopsy for suspected skeletal malignancy.

Case Report

A 53-year-old woman experienced low back pain and numbness in the anterior upper left thigh. The pain started 3 years earlier after a fall on ice. She localized her pain to the left sacroiliac joint and rated it a 4 on a numerical pain scale of 0-10 with 10 being the worst pain experienced. The pain was described as dull, getting worse, and present most of the day. She denied recent fever, infection, weight loss, or significant illness.

The physical examination produced pain on active lumbar range of motion while flexing and extending. All lower extremity myotomes were 5 of 5, and heel walk and toe walk were negative. Standing Kemps elicited pain at the left sacroiliac region. The remainder of the orthopedic examination was negative. Light palpation of the lower lumbar spine and left sacroiliac region caused extreme discomfort.

Lumbar spine radiography (posterior-anterior, lateral, and Ferguson) was performed at the chiropractic clinic to evaluate for degenerative or inflammatory arthropathy of the left sacroiliac joint. The radiographic examination (Figs 1 and 2) demonstrated an oval geographic osteolytic lesion superior to the left acetabular cortex measuring 2.2 cm wide × 2.5 cm in the craniocaudal dimension. The left ilium, along the sacroiliac joint margin, demonstrated abnormal trabecular architecture with variable-sized osteolytic lesions with both ill-defined and well-defined borders. Because of the aggressive osteolytic appearance, the differential diagnosis included primary and metastatic infiltrative marrow lesions of the left innominate. Chiropractic manipulation was deferred until additional diagnostic workup was completed.

Magnetic resonance imaging (MRI) of the pelvis (Figs 3-5) with intravenous gadolinium contrast admin-

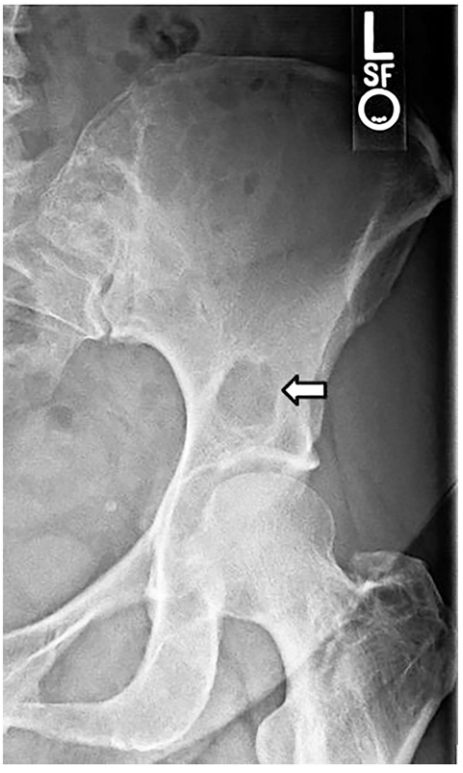

Fig 1. Anteroposterior lumbar radiograph demonstrating an oval geographic osteolytic lesion (white arrow) superior to the left acetabular cortex measuring 2.2 cm wide × 2.5 cm in the craniocaudal dimension.