Pathological fractures due to intraosseous fat necrosis associated with pancreatitis

Sir, Necrosis of fatty bone marrow is an unusual complication of severe pancreatic disorders. We describe a patient presenting with multiple pathological fractures associated with alcoholic pancreatitis.

A 76-yr-old man was admitted to our hospital in May 2000 for pain and swelling of the right hand, both
feet and the left knee. The individual’s medical history included alcoholic pancreatitis. Pertinent laboratory data included a leucocyte count of 19,290 mm$^3$ and an erythrocyte sedimentation rate of 97 mm/h. Serum C-reactive protein, serum amylase and serum lipase levels were 11.4 mg/dl (normal < 0.3 mg/dl), 3189 IU/l (normal < 100 IU/l) and 5700 IU/l (normal < 41 IU/l), respectively. The following studies were negative: rheumatoid factor, antinuclear antibodies and anti-DNA antibodies.

Plane radiographs of hands and feet displayed multiple pathological fractures (Fig. 1A). Plane radiograph of the right knee revealed an osteolytic lesion in the proximal tibia. Technetium-labelled methylene diphosphonate bone scan showed uptake in both hands, feet, left proximal tibia and patella (Fig. 1B). Aspiration biopsy cytology of metacarpal bone of the right ring finger indicated the absence of malignant cells. Abnormal counts with respect to serum amylase and lipase, in conjunction with radiography and MRI data, suggested intraosseous fat necrosis associated with pancreatitis. Drip infusion of gabexate mesilate and intravenous hyperalimentation for pancreatitis were implemented. Fractures of hands and feet were treated with plaster casts. Surgery was not performed for multiple bone lesions. Bone pain was resolved following treatment for pancreatitis. Three months after admission, pathological fractures were united with no complications. The patient exhibits no evidence of disease 6 months after presentation.

Pancreatic disorders display a number of complications, including subcutaneous fat necrosis, striated muscle necrosis and intraosseous fat necrosis [1–7]. Haller [2] reported that the frequency of the triad consisting of panniculitis, arthritis and pancreatic disease was 0.8% and that the majority of these patients exhibited a medical history of alcoholism. Release of excess circulating lipase into the bloodstream may be a factor in fat necrosis [2–8]. Multiple pathological fractures were observed in patients with advanced cancer (including metastatic bone tumours), multiple myeloma and lymphoma. Additionally, these fractures occurred in cases involving congenital bone disorders including osteogenesis imperfecta and osteopetrosis, and metabolic bone diseases including hyperparathyroidism, osteoporosis and Paget’s disease. Pancreatitis must be added to the list of diseases responsible for multiple pathological fractures. Implementation of conservative treatment for fractures and pancreatitis achieved fracture healing.

Nearly 10% of patients presenting with acute pancreatitis display no abdominal pain, similar to that
observed in the present case [7]. In instances where patients present with multiple fractures, the clinician should consider the possibility of pancreatitis.

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Accepted 2 August 2002

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