Proximal femur giant solitary plasmacytoma of bone: lessons learnt

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DESCRIPTION

Solitary skeletal *Plasmacytoma* is a malignant plasma cell tumour that accounts for 3–5% of all monoclonal gammopathies. It presents as a single lytic lesion with clonal plasma cells in the vertebrae, ribs or pelvis, with low or no serum or urine M-protein. Bone marrow is not consistent with multiple myeloma, however, approximately 50% of cases progress to multiple myeloma over 4–5 years.[1] Bone pain is the most common symptom; symptoms are usually of short duration because of the aggressive nature of the disease. Radiographically, solitary plasmacytoma appears as a sharply demarcated, purely lytic lesion without any surrounding reactive sclerosis.[1 2] Diagnosis is usually confirmed by serum immunoelectrophoresis, bone scans, MRI, skeletal survey, bone marrow and tissue biopsies.[1 2] The primary treatment is chemotherapy. Treatment of pathological fractures is often challenging including debulking the tumour and using internal fixation augmented with methacrylate cement. If this method does not allow immediate full weight bearing, segmental resection and joint reconstruction should be considered.[3]

We present a very interesting series of images, as the primary interest of this case, of a giant solitary proximal femur plasmacytoma in a 57-year-old man. He had a pacemaker, which contraindicated MRI scanning, but the patient was otherwise fit and well. He presented with a 3-month history of pain in his right groin with no other constitutional symptoms of malignancy. His plain radiographs (figure 1) revealed a giant lytic lesion of the

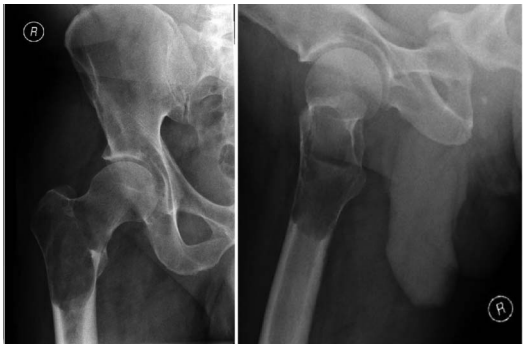

Figure 1 Plain radiographs of pelvis and proximal right femur demonstrating a lytic lesion of the femoral neck, intertrochanteric and subtrochanteric regions.

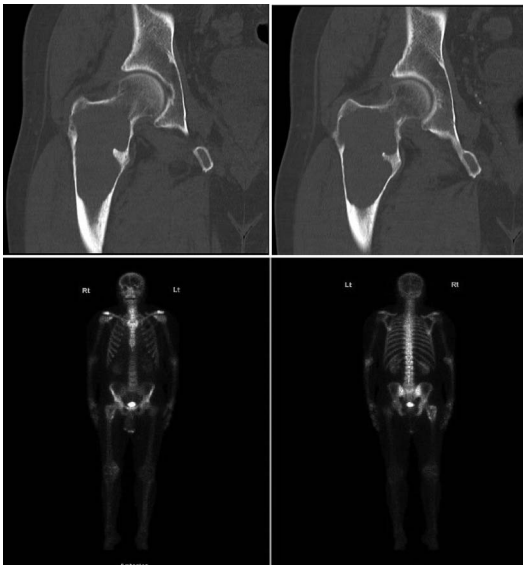

Figure 2 Reformatted CT coronal images and whole body bone scan demonstrating a lytic bone lesion in proximal femur occupying the medullary canal, and causing significant thinning to both medial and lateral cortices.

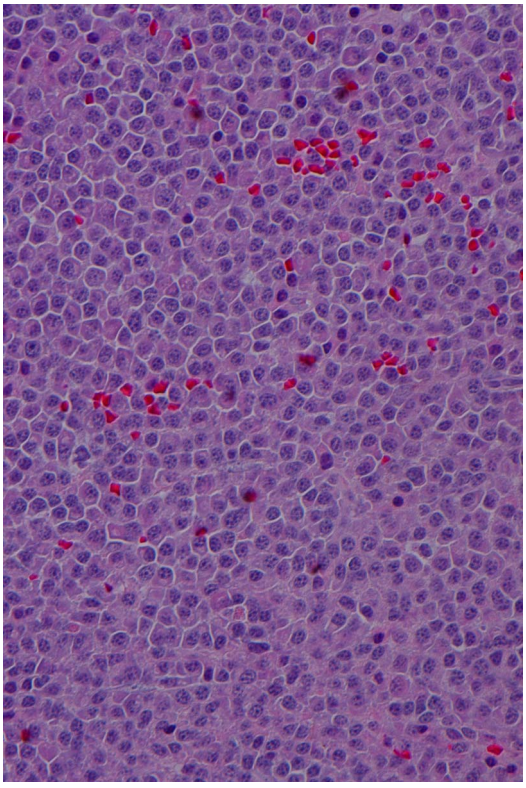

Figure 3 Histology (H & E stain) shows diffuse infiltration of the bone marrow spaces by atypical plasmacytic lymphoid cells exhibiting frequent mitoses suggestive, in light of the clinical history and other investigations, of plasmacytoma.

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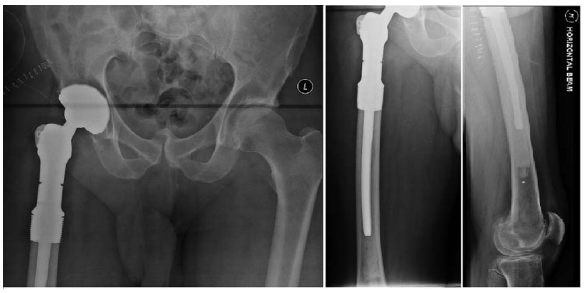

Figure 4 Plain anteroposterior and lateral radiographs following surgical resection of proximal femur lesion with reconstruction arthroplasty surgery, with total hip and proximal femur replacement.

Learning points

- History, physical examination, complete blood count, bone marrow aspirate, serum protein electrophoresis, evaluation of urine for myeloma protein and skeletal survey are all essential in the work up of solitary lytic lesion of bone.
- Long-term follow-up by a haematologist is required for patients with solitary plasmacytoma, as approximately 50% progress to multiple myeloma over 4–5 years.
- Prosthetic joint arthroplasty is a more reliable means of pathological fracture management when there is insufficient bone for fixation.

proximal femur with impending pathological fracture occupying the medullary canal and thinning the cortices, and not amenable to intramedullary or extramedullary fixation devices (figure 2: CT scan and bone scan demonstrating a solitary lesion). Subsequent investigations including serum chemistries, skeletal survey, normal bone marrow aspirate and, later, intraoperative tissue histology (figure 3), confirmed the diagnosis of plasmacytoma. The patient underwent a total hip arthroplasty with proximal femur replacement (figure 4) with uneventful recovery. This was followed by a course of chemotherapy. At 12 months follow-up, he has been asymptomatic with a negative myeloma work up.

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