Osseous sarcoidosis masquerading as metastatic disease

Introduction

Sarcoidosis is a multisystemic granulomatous disease of unknown aetiology with variable presentation, prognosis and progression. In the majority of patients, presentation occurs between 20 and 40 years of age. Osseous sarcoidosis is uncommon.

Discussion

Bone involvement in sarcoid was first described by Kreibich in 1904 and its incidence ranges from 3% to as much as 36% in patients with musculoskeletal symptoms (Aberg et al, 2004).

Most sarcoid skeletal lesions are seen in the small bones of the hands and feet (Moore et al, 2005), with classical lacy pattern of osteolysis in the digits. Large bone sarcoid lesions detected by plain radiographs are uncommon (Resnick and Niwayama, 1995). Neither bone scanning nor skeletal surveys predict reliably the location of bone lesions, except in the small bones of the extremities (Milman et al, 2000). A review of magnetic resonance imaging showed this modality can identify sarcoid bone lesions hitherto undetectable by plain radiographs, although large lesions may resemble osseous metastasis (Moore et al, 2005). 18F-fluoro-2-deoxyglucose positron emission tomography has been used to detect bone lesions in sarcoid (Aberg et al, 2004).

There are no trial data on the management of bone sarcoidosis, and treatment is often disappointing. Corticosteroids ameliorate symptoms, such as bone pain, but do not achieve complete normalization of the bone structure, so patients are at increased risk of osteoporosis and fractures (Johns and Michele, 1999).

Dr Shaney Barratt *is Registrar in Respiratory Medicine,* **Dr Paul R Burn** *is Consultant Radiologist and* **Dr Robert Stone** *is Consultant in Respiratory Medicine, Somerset Lung Centre, Musgrove Park Hospital, Taunton TA1 5DA*

Correspondence to: Dr R Stone

Conclusions

This article has described a case of osseous sarcoid that unusually has affected the axial skeleton. To the authors' knowledge there is one other case report of sarcoid affecting both the vertebrae and iliac crests (Suárez Alvarez et al, 2006). Bony involvement is not commonly considered in patients with known sarcoid, unless they have musculoskeletal symptoms.

This case demonstrates that, if axial skeletal lesions are found in a patient with-

Figure 1. Bone scan showing widespread increased uptake of radioisotope throughout the axial skeleton.

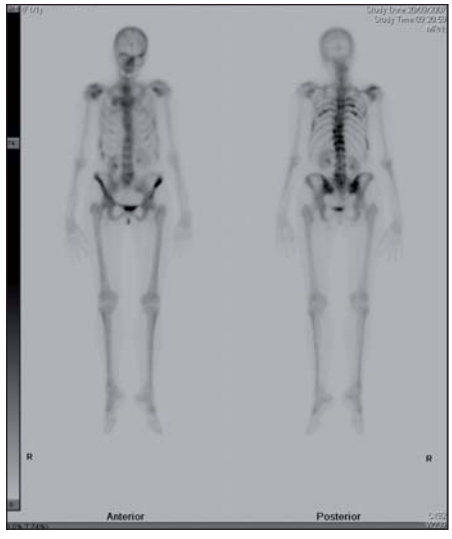
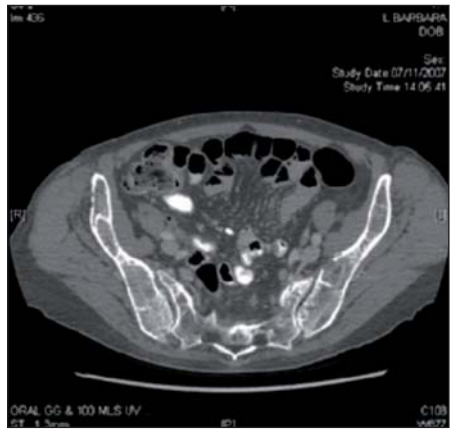


Figure 2. Computed tomography scan, showing bony lytic lesions within the iliac crests.



Case Report

A 64-year-old woman presented with suspected malignancy, characterized by unexplained weight loss of 2 stone over the preceding year, lethargy and widespread musculoskeletal and back pain for which she was taking Zomorph 10 mg twice daily. She was iron deficient; endoscopy and colonoscopy were unremarkable. A bone scan showed widespread increase in uptake of radioisotope (*Figure 1*). A computed tomography scan showed multiple lytic lesions throughout the thoracolumbar spine, ribs and iliac blades, consistent with metastatic disease (*Figure 2*). There was no evidence of cord compression. There were multiple soft tissue nodules throughout both lungs, in tandem with small volume mediastinal lymph node enlargement.

Fine needle sampling of a small volume (7 mm) supraclavicular lymph node revealed no malignant cells but surprisingly the sample demonstrated well-formed non-caseating granulomata, staining negative for acid-fast bacilli. Serum angiotensin-converting enzyme levels were high (114 U/litre; normal range 16–53 U/litre), with a calcium level of 2.61 mmol/litre and normal creatinine levels.

There was concern that the patient might have dual pathology and so a vertebral body was additionally biopsied, the result again showing a non-caseating granuloma compatible with sarcoid (*Figure 3*).

The diagnosis was revised to systemic sarcoidosis with extensive bony involvement. Prednisolone and bisphosphonate were commenced. There was immediate symptomatic improvement, mirrored by declining serum angiotensin-converting enzyme levels. Interestingly, on commencing treatment there was an initial rapid rise in her alkaline phosphatase level (*Figure 4*), possibly related to increased bone turnover.

At her 2-month review she was virtually free of symptoms. Repeat computed tomography of the chest showed marked regression of the pulmonary nodules but persistence of the skeletal lesions.

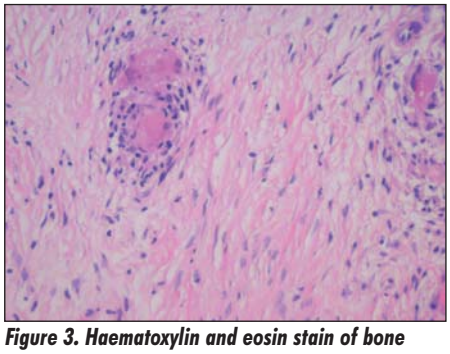


Figure 3. Haematoxylin and eosin stain of bone marrow showing a small granuloma, with two giant cells in it, surrounded by abnormal fibrous tissue.

out a prior diagnosis of sarcoid, they may be misdiagnosed. BJHM

The authors would like to thank Dr Steve Holwill for providing the bone marrow tissue sample for inclusion in this case report, and their patient for consenting to publication of her clinical details.

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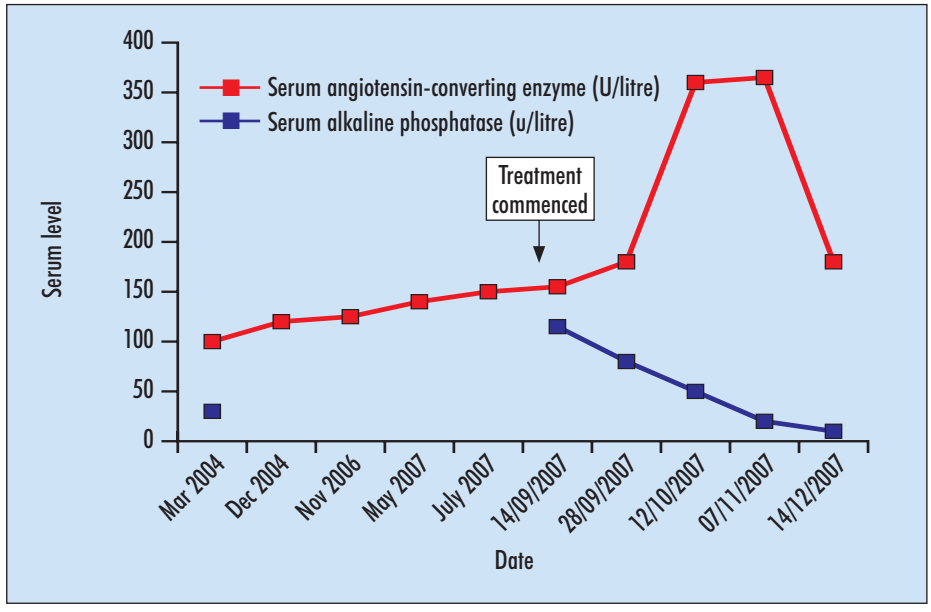

Figure 4. Changes in serum alkaline phosphatase and angiotensin-converting enzyme levels after commencing treatment.

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