IMAGES IN THORAX

Pulmonary metastasised extraskeletal osteosarcoma

Eva M T Bots, Pieter J Wismans, Lennert Slobbe

Department of Internal Medicine, Harbor Hospital and Institute of Tropical Diseases, Rotterdam, The Netherlands

Correspondence to
Dr Eva M T Bots, Department of Internal Medicine, Harbor Hospital and Institute of Tropical Diseases, Haringvliet 2, Rotterdam 3011TD, The Netherlands; evabots@gmail.com

Received 5 August 2015
Accepted 12 August 2015
Published Online First 7 September 2015

A 63- year-old Caucasian man who smoked presented with lower back pain, dyspnoea and weight loss. A chest CT showed multiple bilateral cavitating lesions, consolidations and ground glass lesions (figure 1). Because a CT-guided pulmonary biopsy elsewhere revealed chronic inflammation with caseating granulomas, he had initially been treated with tuberculostatics and subsequently antifungal medication without clinical improvement. Since the patient had also developed a lesion in the neck, this was biopsied and revealed an undifferentiated round cell tumour. Subsequently, a video-assisted thoracoscopy was performed. Pathological analysis demonstrated metastasis of an osteosarcoma; therefore, the final diagnosis was metastasised extraskeletal small cell osteosarcoma (figure 2).

Despite treatment with radiotherapy for bone metastasis and doxorubicin-based chemotherapy, he died a few months later.

Extraskeletal osteosarcomas are high-grade mesenchymal soft tissue malignancies accounting for 1% of all soft tissue sarcomas and approximately 2–4% of all osteosarcomas. By definition, they produce osteoid or cartilage matrix in a sarcomatous pattern and originate in soft tissue without attachment to adjacent osseous structures. They typically affect patients in the sixth decade of life with a slight male predominance.[1] The lower and upper extremities are most commonly affected, followed by the retroperitoneum and other body sites. Although prior radiation therapy is a known risk factor, 90% of cases are idiopathic. Radiological features include soft-tissue opacities, while calcifications or osteoid matrix. Depending on the degree of necrosis, tumour enhancement is seen on CT or MRI after intravenous contrast.[2] Metastases commonly comprise the lungs, bones, lymph nodes, brain, liver and skin. Preferential treatment is surgical resection of the primary tumour. For metastasised disease doxorubicin-based chemotherapy and radiotherapy are commonly used although overall prognosis is poor, with a 5-year survival rate approximately 10%.[1]

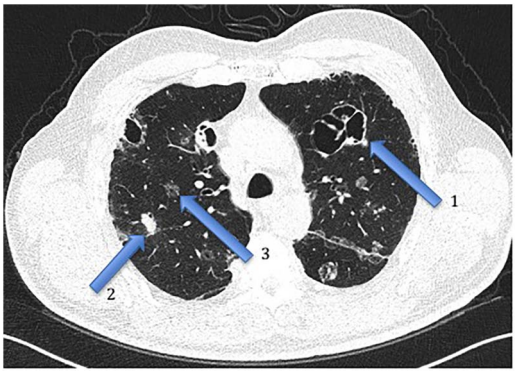

Figure 1 Cavitating lesions (1), ground glass lesions (2) and consolidations (3).

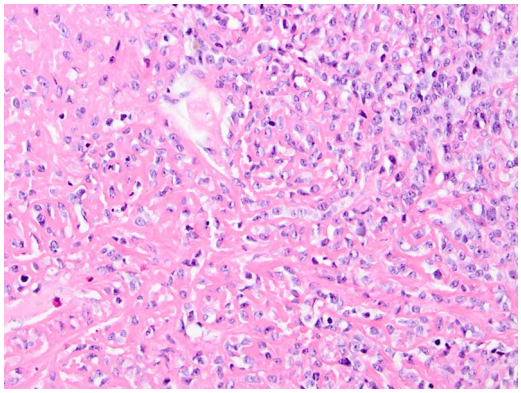

Figure 2 Round cell tumour and osteoid matrix.

Competing interests None declared.

Provenance and peer review Not commissioned; internally peer reviewed.

REFERENCES

1 Mavrogenis AF, Papagelopoulos PJ. Soft tissue tumors: extraskeletal osteosarcomas. *Atlas Genet Cytogenet Oncol Haematol* 2014;18:443–6.
2 Mc Auley G, Jyothi Jagannathan A, O'Regan K, *et al*. Extraskeletal osteosarcoma: spectrum of imaging findings. *AJR Am J Roentgenol* 2012;198:W31–7.

To cite: Bots EMT, Wismans PJ, Slobbe L. *Thorax* 2016;**71**:96.