

CLINICAL IMAGE

Solitary costal plasmacytoma mimicking lung cancer metastasis

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Key Clinical Message

A clinical diagnosis of metastatic bone tumors is usually based on radiological findings without bone biopsy. Plasmacytoma can present as a single osteolytic lesion as described in this case. Early bone biopsy should be considered in unusual clinical settings for a differential diagnosis of primary bone tumors.

Keywords

Bone metastasis, primary bone tumors, solitary plasmacytoma.

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An 83-year-old man presented with dull pain in the left thorax and a mass shadow on the left (Fig. 1). CT revealed a 22-mm irregular opacity in the right upper lobe (Fig. 2A) and a 30-mm mass posterior to the left 8th rib (Fig. 2B) without lymph node swelling. SUVmax was measured by FDG-PET of the lung opacity, and the bone mass was 1.4 and 2.9, respectively. The radiologists diagnosed primary lung cancer with bone metastasis. However, CT performed 2 years previously had detected the same-size lung opacity (Fig. 2C) without the rib lesion (Fig. 2D), suggesting a postinflammatory change.

Question: What is the diagnosis for this bone mass?

A primary bone tumor (PBT) was considered as a differential diagnosis. Urinary Bence–Jones protein was positive, and a rib biopsy indicated plasmacytoma (Fig. 3), which was confirmed by immunohistochemical staining. Bone marrow examination showed no abnormalities. Radiotherapy was given and a cytoreductive effect was obtained.

Primary bone tumors account for <0.2% of all malignancies, and plasmacytoma accounts for 6.7% of PBTs. Despite the good local control with radiation therapy, a

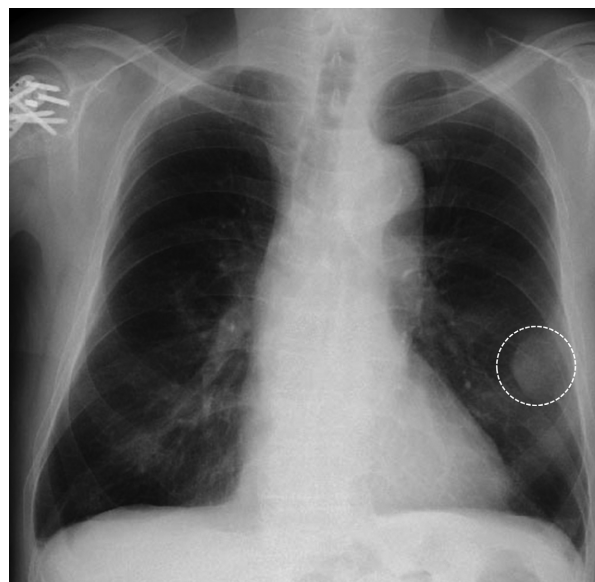


Figure 1. Chest X-ray showing a mass shadow on the left (circled).

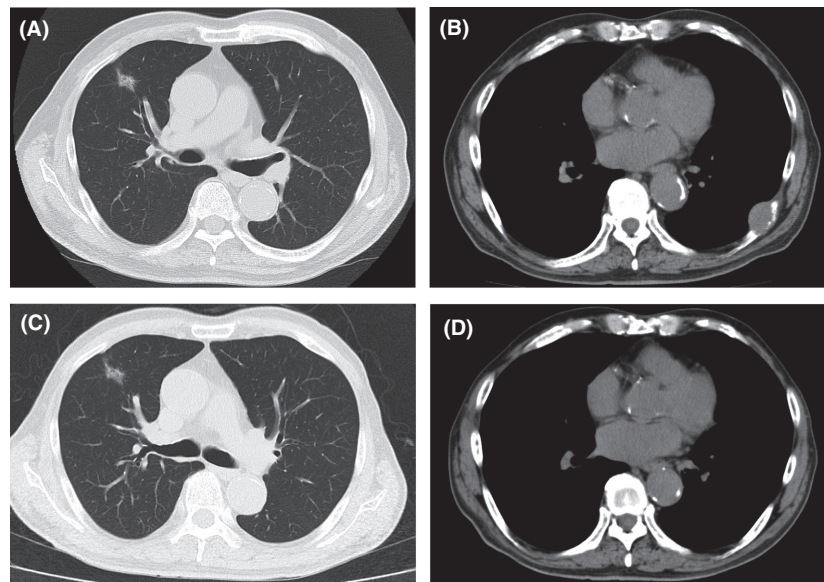


Figure 2. (A–B) Chest CT indicating a 22-mm irregular opacity in the right upper lobe (A) and a 30-mm mass in the rear side area of the left 8th rib (B). (C–D) Chest CT performed 2 years previously indicating the same size lung opacity (C) without the rib lesion (D).

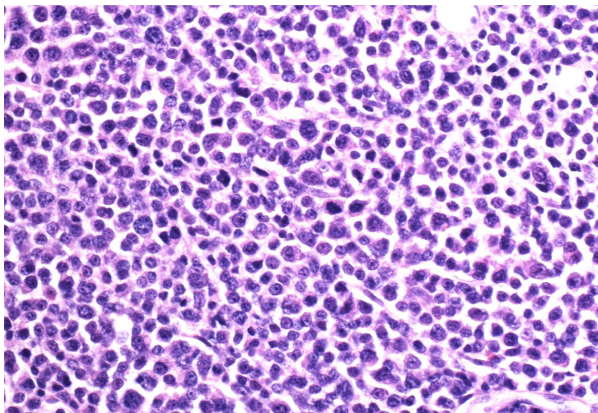


Figure 3. Photomicrograph of the H&E-stained rib biopsy showing neoplastic proliferation of plasma cells, which have a round or oval appearance.

long-term follow-up is essential for patients with solitary plasmacytoma because about 50% of cases ultimately turn into overt multiple myeloma over 5 years [1, 2].

Authorship

NK: drafted the initial manuscript. TS: edited and submitted the manuscript. NK and NH: involved in diagnosing and treating the patient. KN: performed the pathological studies.

Conflict of Interest

The authors state that they have no conflict of interest.

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