

Osteoblastic Solitary Plasmacytoma of Bone

Kemiğin Osteoblastik Soliter Plazmasitomu

Chrysa Sioka¹, Konstantinos Sakelariou¹, Alexandra Papoudou-Bai², Christos Tolis³, Jihand Al-Boucharali¹,
Andreas Fotopoulos¹

¹School of Health Sciences, University Hospital of Ioannina Faculty of Medicine, Department of Nuclear Medicine, Ioannina, Greece

²School of Health Sciences, University Hospital of Ioannina Faculty of Medicine, Department of Pathology, Ioannina, Greece

³Oncoderm Center, Ioannina, Greece

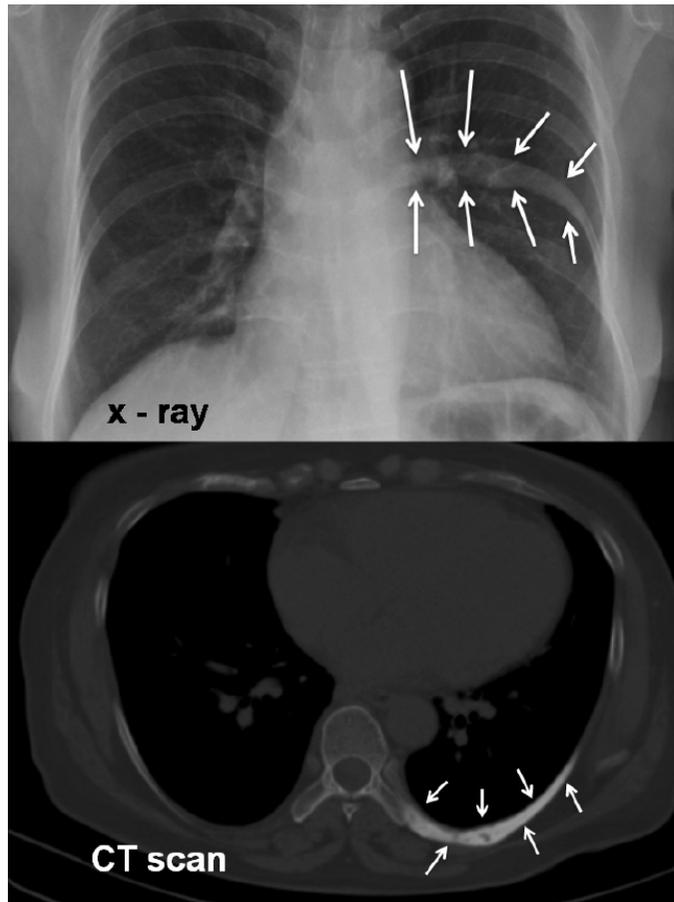


Figure 1. Chest X-ray (upper panel) revealing a hyperdense lesion in the left 8th rib (arrows); the computed tomography scan of the chest (lower panel, arrows) documented the abnormality.

CT: Computed tomography.

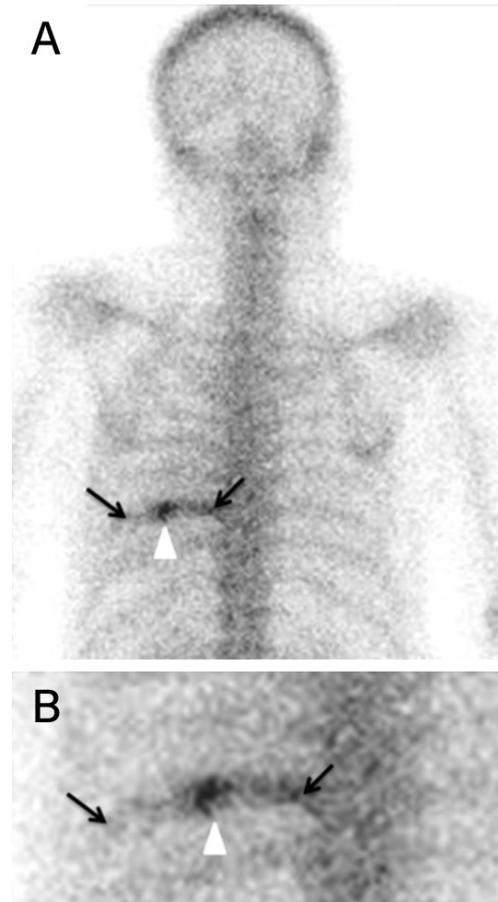


Figure 2. Whole-body bone scan with Tc-99m-methylene diphosphonate demonstrated increased radionuclide uptake, indicating an osteoblastic lesion in a large portion of the rib (arrows), with intense focal uptake (arrowhead).

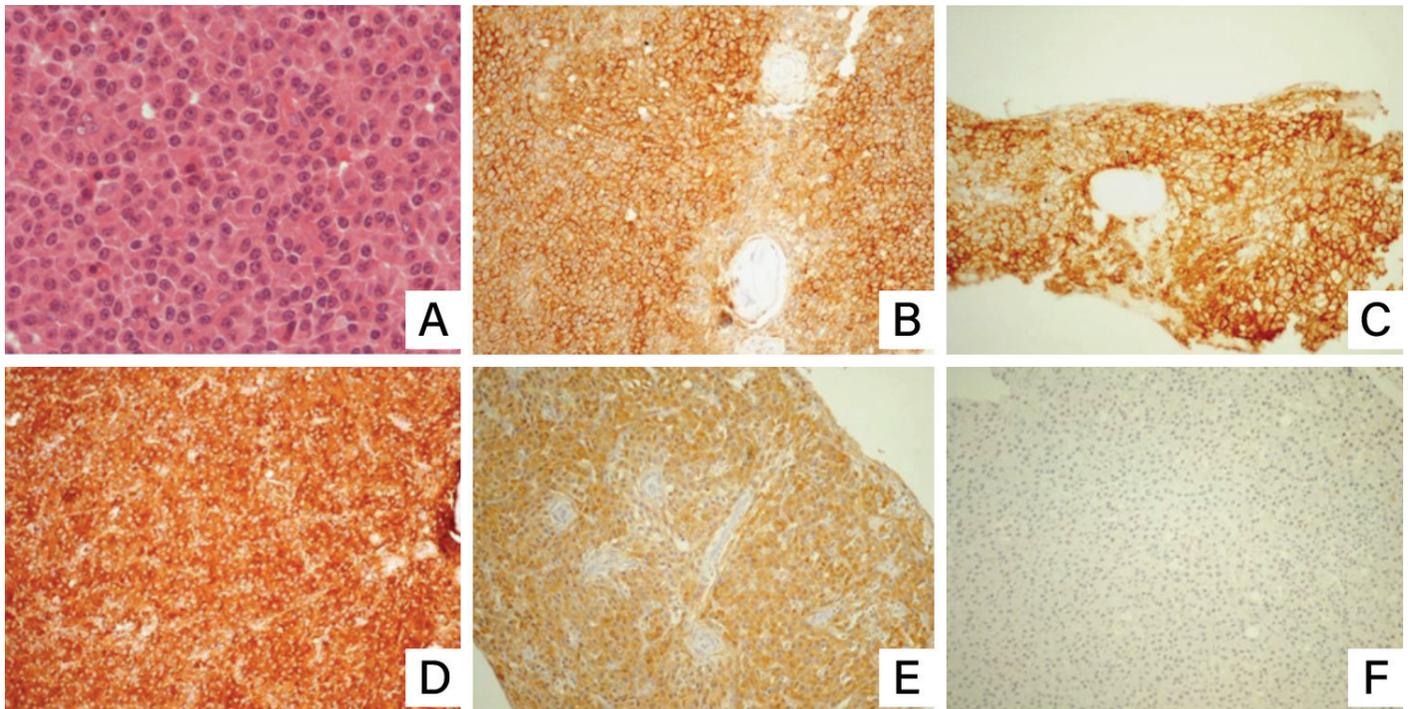


Figure 3. Histological examination of the bone lesion revealed plasma cell infiltrate (3A, hematoxylin and eosin staining, magnification 600 \times). The neoplastic cells were CD138-positive (3B, DAB, magnification 200 \times) and CD38-positive (3C, DAB, magnification 200 \times) and expressed IgA (3D, DAB, magnification 200 \times). Immunostainings for kappa and lambda light chains showed cytoplasmic light chain positivity (3E, DAB, magnification 200 \times) and absence of kappa light chain (3F, DAB, magnification 200 \times).

A 54-year-old woman was subjected to a routine annual chest X-ray for work license renewal, which showed a hyperdense lesion of the left 8th rib (Figure 1). A chest computed tomography (CT) scan documented this abnormality, which was considered to represent Paget's disease, bone metastasis, or a primary bone tumor.

A whole-body bone scan showed increased radionuclide uptake (Figure 2), indicating an osteoblastic lesion in a large portion of the rib (arrows), with intense focal uptake (arrowhead).

Diagnostic biopsy and histological examination of a tissue specimen from the affected rib (Figure 3) revealed dense infiltration of plasma cells (Figure 3A, hematoxylin and eosin stain, 600 \times). Immunohistochemically, the cells expressed CD138 (Figure 3B, DAB, 200 \times) and CD38 (Figure 3C, DAB, 200 \times) and were IgA-positive (Figure 3D, DAB, 200 \times). Immunostaining showed lambda light-chain restriction (Figure 3E, DAB, 200 \times) with no expression of kappa light-chain (Figure 3F, DAB, 200 \times), consistent with plasma cell neoplasm. The bone marrow biopsy obtained from the left iliac crest was free of neoplastic invasion. An X-ray of the axial skeleton and long bones and a CT scan of the skull and thorax were performed, which did not reveal any additional bone lesions. Laboratory test results demonstrated normal creatinine (0.73 mg/dL) and total calcium (9.6 mg/dL) levels. The results of the

complete blood count showed a white blood cell count of $3.39 \times 10^3/\mu\text{L}$ with no other remarkable findings. B2 microglobulin was 2091 μL (normal range: 700-3400) and alkaline phosphatase was 40 IU/L (normal range: 30-125). Serum free light-chains were absent and there was no serum or urine monoclonal paraprotein detection. Taking into consideration all of the above-mentioned findings, a diagnosis of osteoblastic solitary plasmacytoma was made.

Solitary osseous plasmacytoma consists of a mass of neoplastic monoclonal plasma cells associated with bone osteolysis [1,2]. During diagnostic workup, fludeoxyglucose-positron emission tomography should be performed, if available, to rule out smoldering multiple myeloma and monitor response to treatment [3,4]. Solitary osteolytic bone plasmacytomas, although rare, have been reported in several bone areas such as the lumbar spine vertebra, the sternum, or even the ribs [2,5]. However, plasmacytoma exhibiting osteoblastic characteristics such as in our case is extremely rare and deserves further investigation.

Keywords: Plasmacytoma, Bone scintigraphy, Multiple myeloma

Anahtar Sözcükler: Plazmasito, Kemik sintigrafisi, Multipl myelom

Informed Consent: Received.

Conflict of Interest: The authors of this paper have no conflicts of interest, including specific financial interests, relationships, and/or affiliations relevant to the subject matter or materials included.

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