

Solitary Bone Plasmacytoma: The Role of Imaging in a Case Study

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Clinical Medical Image

A 39-year-old patient with no significant medical history presented with a sternal swelling that had been developing over the past three years. Clinical examination revealed a mass adjacent to the sternal bone. A chest X-ray indicated a lytic lesion in the sternal bone. Thoracic Computed Tomography (CT) showed a locally infiltrating lytic process affecting the sternal manubrium, along with bilateral subclavian lymphadenopathy, but no other bone lesions were identified. A surgical biopsy was performed through a midline sternal incision under local anesthesia, and histological analysis confirmed a diagnosis of malignant plasmacytoma. Laboratory and radiological evalua-

tions, including standard blood tests, protein electrophoresis, and urine testing for Bence-Jones proteins, were conducted. These tests were normal, ruling out multiple myeloma and confirming the diagnosis of solitary bone plasmacytoma. As of now, with a two-year follow-up, there have been no recurrences or transformations into multiple myeloma.

Solitary plasmacytoma is a malignant tumor derived from a single clone of more or less differentiated B lymphocytes without diffuse medullary invasion, distinguishing it from multiple myeloma [1]. The most common sites for SOP are long bones and vertebrae. Sternal localization is extremely rare [2,3].



Figure 1: Anteroposterior and lateral chest radiograph showing lytic lesion adjacent to the sternal bone

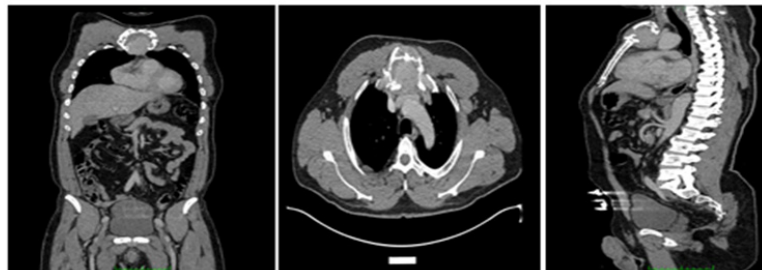


Figure 2: Thoraco-abdominopelvic computed tomography (parenchymal window): Locally infiltrating lytic process of the sternal manubrium

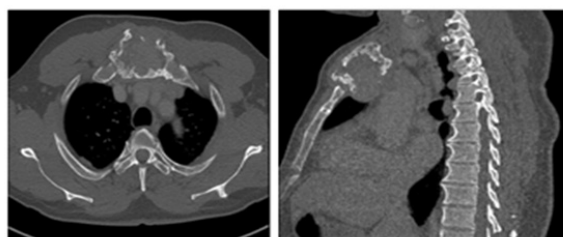


Figure 2: Thoraco-abdominopelvic computed tomography (bone window): Aggressive osteolysis of the sternal manubrium

CT scans refine the radiological image and study tumor extension. Magnetic resonance imaging, more effective in medullary exploration, finely assesses tumor boundaries [4], offering greater precision for local treatment (surgery, radiotherapy). SOP tumor locations are similar to multiple myeloma. The unique nature of the lesion defining SOP can be confirmed by radiological assessment [5].

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