Giant Cell Tumor of the Rib

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A 34-year-old man was admitted with dull left-sided back pain. Physical examination revealed no abnormalities. Routine laboratory investigations including tumor markers were normal. Chest computed tomography demonstrated a heterogenous soft tissue tumor associated with destruction of the tenth rib in the left posterior mediastinum (Picture 1). Technetium-99m methylene diphosphonate bone scan showed intense uptake in the left tenth rib (Picture 2). Histologically, percutaneous biopsy specimen of the tumor indicated the presence of diffuse proliferation of multinucleated, osteoclast-like giant cells on a background of oval- to spindle-shaped mononuclear stromal cells (hematoxylin and eosin stain, ×100).

Picture 1. Chest CT reveals a heterogenous soft tissue tumor associated with destruction of the tenth rib in the left posterior mediastinum.

Picture 2. Posterior view on technetium-99m methylene diphosphonate bone scan shows intense uptake in the left tenth rib.

Picture 3. Microscopically, the tumor shows diffuse proliferation of multinucleated, osteoclast-like giant cells on a background of oval- to spindle-shaped mononuclear stromal cells (hematoxylin and eosin stain, ×100).
cated a giant cell tumor (GCT). Radical excision of the tumor was performed. Microscopically, the tumor showed diffuse proliferation of multinucleated, osteoclast-like giant cells on a background of oval- to spindle-shaped mononuclear stromal cells. Thickened periosteum was found in the tumor (Picture 3). These findings are consistent with GCT of rib origin. Reports of GCT of rib origin are rare, accounting for only 0.6% of cases (1). GCT growing widely out of the rib mimics a mediastinal tumor, as in the present case. GCT should be kept in mind when considering the differential diagnosis of mediastinal tumor associated with destruction of the rib.

References


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