

not clear which one is involved in the appearance of the pneumothorax in our case; our patient had an endobronchial tumor without any metastasis, so the most likely mechanism would be a valve mechanism that caused postobstructive emphysematous expansion of the alveoli and constitution of subpleural bullae, which eventually would break into the pleural space [2]. In this patient, the presence of incomplete lung reexpansion was the reason for carrying out complementary imaging studies that allowed us to reach the diagnosis of endobronchial tumor, which made it difficult for the lung to reexpand, producing lingula and left lower lobe collapse. Steinhäuslin and Cuttat [8] point out the need of a more detailed study in patients older than 40 years, and in heavy smokers in whom after an episode of pneumothorax treated with transthoracic drainage, the affected lung does not reexpand completely. We believe that other imaging studies are indicated in cases of a pneumothorax that are not resolved after transthoracic drainage, ie, pneumothorax with torpid evolution [2].

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Osteoid Osteoma of the Rib Presenting as Thoracic Outlet Syndrome

Saeed Kargar, MD, Saeed Arefanian, MD, Afsaneh Ghasemi, MD, Fariba Binesh, MD, and Naeimeh Heiranizadeh, MD

Department of Surgery, Shahid Sadoughi Hospital, Shahid Sadoughi University of Medical Sciences, Yazd; School of Medicine, Tehran University of Medical Sciences, Tehran; Department of Radiology, Mortaz General Hospital, Yazd; and Department of Pathology, Shahid Sadoughi Hospital, Shahid Sadoughi University of Medical Sciences, Yazd, Iran

Osteoid osteoma of the rib is a rare condition mostly mentioned in case report studies as lesions involving posterior region of the rib causing scoliosis. This report presents a 22-year-old man who complained of neurologic thoracic outlet syndrome symptoms. The pathologic study of the resected mass of the first rib confirmed the diagnosis of osteoid osteoma. This unique presentation of the osteoid osteoma as thoracic outlet syndrome suggests that this pathologic involvement of the ribs is not confined to the symptoms of pain and scoliosis.

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Osteoid osteoma (OO) of the thoracic rib is a rare condition mentioned in case report studies that mostly presents as lesions of the posterior region of the rib causing scoliosis [1-3]. In the present report, we uniquely present a young male patient with first rib OO presenting as thoracic outlet syndrome (TOS).

A 22-year-old man presented with a pain and paresthesia in left upper extremity during the last 2 months. The patient reported similar symptoms with less severity and approximate frequency of once monthly during the last 2 years. The pains were worsened by anxiety. His symptoms had increased in severity during the last 2 months in a way that woke him during the night if he did not use analgesics. The patient did not have any background disease or trauma in his history, and no similar problem was reported in his familial history.

The physical examination detected decreased force of the left upper extremity compared with the right side. The left hand felt cooler in the palpation of upper extremities. The patient's symptoms could be reproduced by an abduction and external rotation maneuver of the affected extremity. The blood pressures of upper extremities did not differ significantly, and both radial pulses were detected symmetrically. An electromyogram and nerve conduction velocity study to evaluate his complaint revealed findings compatible with mild to moderate compression on the lower trunk of the brachial plexus. All of the studied hematologic and biochemical laboratory factors were within the normal reference ranges.

A chest roentgenogram showed a large mass in the upper left hemithorax with rib destruction but no shift of the midline structures (Fig 1). A computed tomography scan revealed a large heterogeneous mass arising from left chest wall, with lytic destruction of the first rib and coarse calcification (Fig 2). Owing to the presence of calcification in the tumor, a provisional diagnosis of osteogenic sarcoma with a differential diagnosis of chondrosarcoma was made.

The patient was operated on and mass was excised by the supraclavicular approach. The large tumor of the first

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Address correspondence to Dr Arefanian, School of Medicine, Tehran University of Medical Sciences, No. 48, Orkideh Alley, Jomhouri Blvd, Yazd 89179 48733, Iran; e-mail: s.arefanian83@gmail.com.

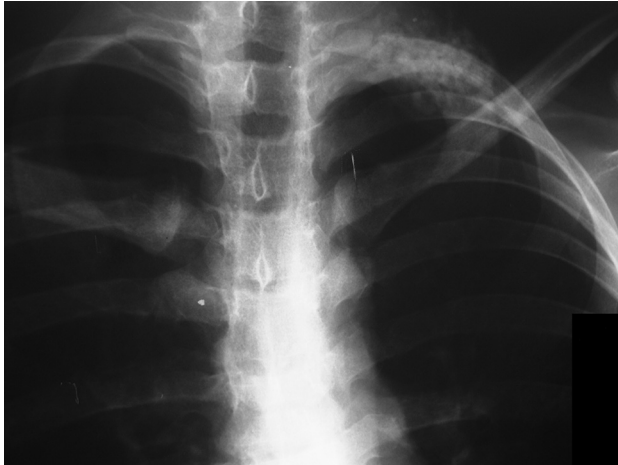


Fig 1. A chest roentgenogram shows a large mass with destruction of the rib and coarse calcification.

rib was totally removed. The tumor was a 7-cm × 3-cm × 3-cm non-homogenously multilobulated mass, with no adhesion to the surrounding structures.

Pathologic study of the nidus, which consisted of an interlacing network of bone trabeculae with prominent osteoblasts, confirmed the diagnosis of OO (Fig 3). At the postoperative follow-up visits, the patient's symptoms were relieved, and he reported no complaint or complications.

Comment

Because of the approximation of vessels and nerves in thoracic outlet region, TOS can present with a wide range of vascular and neurologic symptoms. The main pathophysiology of TOS is based on the compression of arterial, neuronal, and rarely, venous structures, specifically, the brachial plexus and subclavian artery and vein [4, 5]. Any mechanism that alters the normal anatomic structure of the thoracic outlet region can cause TOS. The TOS etiologies mostly consist of abnormal ligaments and cervical rib, or are secondary to scalenus muscle hypertrophy [4]. The main signs and symptoms of TOS are neuronal (pain, paresthesia, and sensory and motor

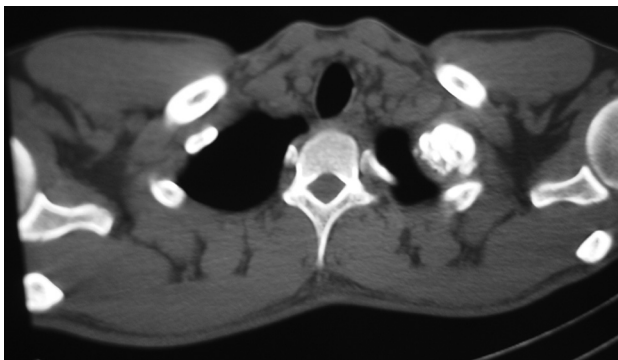


Fig 2. An axial computed tomography scan reveals a broad-based calcified mass attached to the inner cortex of the left first rib with lytic destruction.

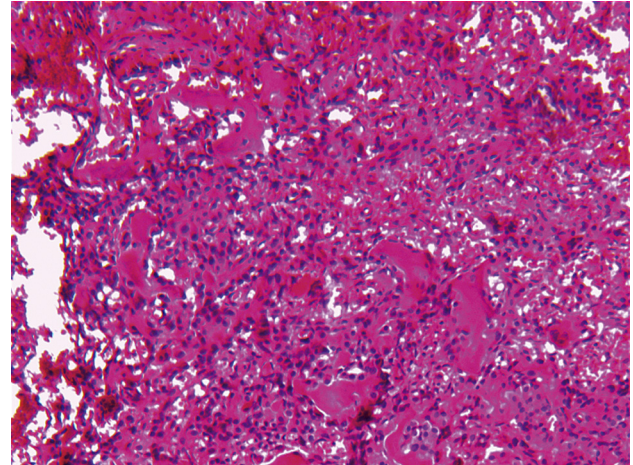


Fig 3. Sections of the lesion showed an interlacing network of thin bone trabeculae uniformly distributed in loose stromal vascular connective tissue. Osteoblasts rim the osteoid trabeculae prominently and are accompanied by numerous osteoclast-like, multinucleated giant cells (hematoxylin and eosin staining; original magnification ×10).

deficits) and vascular (Raynaud phenomenon, subclavian artery bruit).

Interestingly, TOS has been suggested as the most misdiagnosed as well as the most difficult upper extremity peripheral nerve compression to manage [4, 6]. Among the surgical techniques, the supraclavicular surgical approach can be preferred because it provides good exposure of the nerves and vessels, has fewer rates of complication and less blood loss, and has a shorter postoperative hospital stay [5]. From the epidemiologic aspect, TOS is mostly diagnosed in the third and fourth decades and is more common in women [5].

Osteoid osteoma (OO), introduced by Jaffe in 1935, is a common benign tumor of the long bones but is rare in the flat bones such as ribs. OO of the rib, when located adjacent to the vertebra, can cause secondary scoliosis due to pain and muscle spasm [7]. In most instances of rib OO, as well as giant OO or benign osteoblastoma, the lesion has been diagnosed in patients complaining of scoliosis in such a way that Mehta [8] suggested OO and osteoblastoma complex as the most frequent tumor when pain and scoliosis are found in the adolescent patient.

In the radiographic imaging, OO appears as a radiolucent nidus surrounded by dense bone reaction. It should be considered that the radiolucent nidus will calcify and produce a radiodense tumor over time. Although clinical and radiologic findings usually suggest considering the differential diagnosis of osteosarcoma, the histologic appearance of OO nidus tissue would be a distinctive finding that can simplify the diagnosis. The pathologic picture of osteoid trabeculae, with rims of osteoblasts accompanied by osteoclast-like multinucleated giant cells, can usually be noticed. The parallel or radially oriented bone trabeculae with gradual peripheral maturation to lamellar bone, indicating the reactive new bone formation, can easily be distinguished from nidus tissue with the randomly and disorderly pattern of osteoid and

woven bone trabeculae. Osteoblastoma may recur after the surgical excision; meanwhile, recurrence can be prevented by complete resection [3].

In our literature search, we could not find any similar report of OO of the rib presenting as TOS. Pain alone or with scoliosis is the main complaint of most patients with rib OO. OO is a disease more common in the adolescent population. The presented case as a unique manifestation of rib OO presenting with neurologic symptoms of TOS and pain in an adult should alert the professionals to consider this etiology as one of the differential diagnoses for pathogenesis of TOS that is not merely confined to the adolescent population presenting with scoliosis.

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Extended Resection of a Plasmocytoma of Bone and an Amyloidoma of the Chest Wall

Seyer Safi, MD, Jan op den Winkel, MD, Philipp A. Schnabel, MD, PhD, Ute Hegenbart, MD, Kai Neben, MD, Thomas Schneider, MD, and Hendrik Dienemann, MD, PhD

Department of Thoracic Surgery, Thoraxklinik, Institute of Pathology, Division of Thoracic Pathology, Department of Internal Medicine, Division of Hematology, Oncology and Rheumatology, Amyloidosis Center, University of Heidelberg, Heidelberg, Germany

Solitary plasmocytoma of bone is a rare condition of plasma cell neoplasia that presents as a single lesion.

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Address correspondence to Dr Safi, Department of General Thoracic Surgery, Thoraxklinik, University of Heidelberg, Amalienstrasse 5, 69126 Heidelberg, Germany; e-mail: seyer.safi@thoraxklinik-heidelberg.de.

Amyloidoma of the chest wall is an uncommon presentation of solitary tissue amyloid deposition in the absence of systemic light-chain amyloidosis. This report describes a patient with both uncommon conditions. The tumor originated from the spine and invaded the right lung. In this exceedingly rare case, radiotherapy and a two-step resection of the right lower lobe, full-thickness chest wall, diaphragm, and vertebral body of T9 provided local control of the tumor. Spondylodesis of T7 to T11 provided spine stability.

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Plasma cell neoplasms can present as single (solitary plasmocytoma) or multiple lesions (multiple myeloma). Solitary plasmocytomas develop from a monoclonal plasma cell infiltrate and most frequently occur in bone. However, less than 5% of all plasma cell neoplasms demonstrate as solitary plasmocytomas of bone. Although local radiotherapy is the treatment of choice, surgical intervention may be necessary in patients with vertebral instability [1].

Amyloidoma of the chest is an extremely rare entity consisting of a solitary tumor-like extracellular deposit of amyloid. It can mimic malignant tumors, causing local destruction and lung infiltration. Complete surgical resection of amyloidoma provides local control and low recurrence rates [2].

A 62-year-old white man with a medical history significant for myocardial infarction 10 years previously and prostatectomy for prostate cancer 7 years previously presented with a progressive painless swelling in his back. He reported back pain 12 months ago when he noticed the

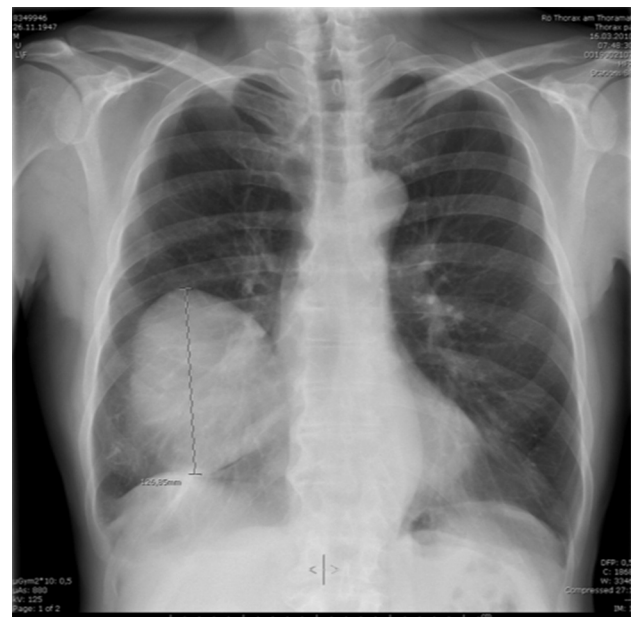


Fig 1. The initial chest roentgenogram shows a 12-cm x 10-cm mass of the right lower thorax.