

Intraosseous Lipoma of Rib

To the editor:

Lipoma is defined as a benign tumor consisting of a circumscribed mass of adipose tissue. Intraosseous lipomas represent fewer than 0.1% of all primary bone tumors. They are organized into 3 groups according to their histopathologic characteristics: group 1 tumors contain mainly viable adipocytes; group 2 tumors contain, in addition, areas of fat necrosis and calcifications; and group 3 tumors contain ischemic areas of new bone formation, calcifications, and viable adipocytes, with or without areas of fat necrosis.¹ We present a case of intraosseous lipoma in a rib. This is a very rare type of benign tumor that is even less frequent in this location, being more commonly encountered in long bones.

The patient, a 58-year-old man, was a nonsmoker who had previously undergone surgery for cerebellopontine angle neurinoma and was without other relevant medical or surgical history. The patient was referred by the traumatology department for evaluation of a tumor of the left rib, diagnosed more than 5 years previously, that was asymptomatic but displayed progressive growth. The results of the physical examination were normal except for the sequelae of the surgery for neurinoma that had affected the facial nerve, causing oral commissure deviation and left palpebral ptosis. A fixed tumor of approximately 12 cm in diameter that did not cause pain was observed in the left dorsal region. Analytic parameters fell within the normal range. Chest radiograph and a computed tomography scan without contrast enhancement (Figure) revealed an expansive lesion adjacent to the chest wall (eighth rib) containing areas of bone density and intermediate density as well as hypodense areas. The lesion caused muscular displacement and a fissure was visible between the tumor and the adjacent rib. Despite the radiographic and clinical indications that the lesion was benign, and with the patient's consent, the tumor was removed along with the posterior section of the eighth left rib; the pleural cavity was not opened and the operation was performed under general anesthesia. Recovery was satisfactory and the patient was discharged on the third day following the procedure. Histologic analysis provided a definitive diagnosis of intraosseous lipoma with calcified capsule.



Figure. Computed tomography scan showing an expansive lesion with areas of bone density in the left subscapular region.

Although intraosseous lipoma is usually asymptomatic, it can occasionally present with localized pain or discomfort.² Radiographs reveal an osteolytic lesion with slight bone expansion. Areas of sclerosis may be observed in the margin or there may be central calcification.³ Reports have described intraosseous lipoma in patients of all ages, both sexes, and although it has been observed in various bones, it is normally located in the metaphyses or epiphyses of the long bones (femur, tibia, and humerus), pelvis, or heel. Lipoma is normally subcutaneous. Since intraosseous lipoma occurs inside the bone trabecula, it causes a series of secondary changes upon proliferation of the adipocytes and those changes influence the morphology and progression of the lesion.⁴ Diagnosis is based on histologic evidence, and differential diagnosis should be undertaken to rule out various bone tumors (enchondroma, osteoblastoma, and chondrosarcoma), bone infarct, or fibrous dysplasia.⁵ The presence of fat density in a computed tomography scan is also useful in diagnosis. When symptoms are present, treatment consists of surgical excision of the tumor.

**M. Bonnin Vilaplana,^a C. Simón Adiego,^b
and L. Molins López-Rodó^b**

^aServicio de Neumología, Hospital Sagrat Cor, Barcelona, Spain.

^bServicio de Cirugía Torácica, Hospital Sagrat Cor, Barcelona, Spain.

1. Milgram JW. Intraosseous lipomas: radiologic and pathologic manifestations. *Radiology*. 1988;167:155-60.
2. Fiorentino L, Rossi G, Ruggiero C, Valli R, Gusolfino D, Maximiano M, et al. Lipoma parostale costale: descrizione di un caso. *Patologica*. 2001;93:668-71.
3. Hall FM, Cohen RB, Grumbach K. Case report 377: intraosseous lipoma (angioliipoma) of right third rib. *Skeletal Radiol*. 1986;15:401-3.
4. Chow LT, Lee KC. Intraosseous lipoma. A clinicopathologic study of nine cases. *Am J Surg Pathol*. 1992;16:401-10.
5. Pedemonte P. Unusual case of medullary lipoma of a rib. *Arch De Vecchi Anat Patol*. 1969;55:721-9.