

Intrathoracic Located Parosteal Lipoma of the Rib: Case Report

Kaburganın İnratorasik Yerleşimli Parosteal Lipomu

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ABSTRACT Lipomas of the bone usually occur in the diaphysis of long bones of the upper and lower limbs and are seen in the fifth to seventh decade of life. Rib lipomas are rare and those having parosteal location are even rarer. Parosteal lipomas of the ribs are benign tumors that are composed mainly of mature adipose tissue, and developed from parosteal bone. Only a few cases have been previously reported in the English literature and they were all located extrathoracic above the ribs. Here we describe an exceedingly rare case of parosteal lipoma of the right fourth rib which developed in the thoracic cavity in a 60-year old woman with normal physical examination. To the best of our knowledge this is the first case of intrathoracic located parosteal lipoma of the rib.

Key Words: Lipoma; thoracic wall

ÖZET Kemik lipomları genellikle üst ve alt ekstremitelerde uzun kemiklerin diafizinde oluşmakta olup hayatın 5. ve 7. dekatları arasında görülmektedir. Kaburga lipomları nadir olup parosteal lokalizasyonlu olanları ise çok daha nadirdir. Kaburgaların parosteal lipomları, parosteal kemikten gelişen ve esasen matür adipöz dokunun oluşturduğu benign tümörlerdir. İngilizce literatürde daha önce yayınlanan birkaç olgu mevcut olup hepsi kaburgaların üzerinde ekstratorasik yerleşimlidir. Burada tanımlanan olgu, 60 yaşında normal fizik muayenesi olan bir kadın hastanın 4. kaburgasından intratorasik gelişim gösteren ve son derece nadir bir parosteal lipom olgusudur. Bildiğimiz kadarıyla bu olgu, kaburganın intratorasik yerleşim gösteren ilk parosteal lipomudur.

Anahtar Kelimeler: Lipom; göğüs kafesi duvarı

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Parosteal lipoma is a rare benign neoplasm that is mainly composed of mature adipose tissue that has an intimate relationship to the underlying periosteal bone.¹ The incidence of this tumor is 0.3% of all lipomas and 0.01% of all bone tumor. The commonly involved sites are the femur, proximal radius, humerus, tibia, clavicle and pelvis.^{2,3} The rib is uncommon site and only a few cases have been reported before.² Here we report an exceedingly rare case of parosteal lipoma of the rib, which presented in a 60-year old woman that was developed in the thoracic cavity.

CASE REPORT

A 60-year old woman was referred to our department for a mass of 2 years in the thoracic cavity, detected during a routine medical check-up. The

mass had slowly increased in size. The patient had no history of trauma and the physical examination was normal. She had never smoked cigarettes. Computerized tomography (CT) scan of thorax demonstrated a well defined mass of 2.3 cm in diameter located posterolaterally under the fourth rib in the thoracic cavity (Figure 1A). We have done exploratory videothoracoscopy to examine if there is an adhesion to the visceral pleura and we found no adhesion (Figure 1B). The mass was strongly adhered to the fourth rib and then we took the operation through a small incision on the fourth rib posterolateral surface. The patient underwent en-bloc resection of the mass and posterior part of the right fourth rib. The distance from the resection margin of the rib was 2 cm and 4 cm, respectively. On gross examination the mass measured 2.5x1.5x1 cm in dimension. A piece of rib was strongly attached to the mass (Figure 2A). Histopathologically, the lesion was composed of mature lipocytes that had an intimate relationship with the periosteum. No cellular atypia or lipoblasts were seen (Figure 2B). The final diagnosis was a parosteal lipoma of the rib. The postoperative course was uneventful and there was no local recurrence during the follow-up period of 4 months. Written informed consent was obtained from the patient.

DISCUSSION

Lipomas are the most common benign mesenchymal tumors that usually arise in soft tissues. Lipomas arising in bones are rare with frequent intraosseous and uncommon parosteal location.^{3,4} The incidence of parosteal lipoma is 0.3% of all



FIGURE 1: 1A. Computerized tomography (CT) scan of thorax demonstrate a well defined mass of 2,3 cm in diameter located posterolaterally under the 4. rib in the thoracic cavity. **1B.** Videotoracoscopic view of the mass.

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FIGURE 2: 2A. On gross examination the mass measured 2,5x1,5x1 cm in dimension. **2B.** Histopathologically, the lesion was composed of mature lipocytes that had an intimate relationship with the periosteum (hematoxylin and eosin x100).

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lipomas. They are usually asymptomatic benign lesion consisting of mature adipose tissue that is intimately associated with the periosteum of bone.⁵

Patients with parosteal lipoma range in age from 40 to 60 years and they present as painless, slow growing large, nontender, immobile masses present for many years. The most common sites of origin for parosteal lipomas are the femur and the radius. But ribs are extremely rare locations for parosteal lipomas.⁵ All parosteal lipomas of the ribs that have been described in the earlier reports were a big mass and located extrathoracic above the ribs.²⁻⁷ But in our case the mass was small and located in the thoracic cavity with no clinical signs.

The etiological factor is not clear. The hypothesis include trauma, heredity, inflammation. Sometimes motor and sensory disturbances from adjacent nerve compression may occur.⁶ In our patient we could not detect any etiological factor and there was no intercostal neuralgia.

On CT scan parosteal lipoma usually present as well-defined hypodense lesions suggestive of a fatty tissue with an osseous excrescence within it or erosion at the attachment of the soft-tissue mass to the subjacent cortex, or both.²

The differential diagnosis of parosteal lipoma includes osteochondroma, myositis ossificans, parosteal osteosarcoma, soft tissue lipoma, liposarcoma, and chondrosarcoma.⁷

Successful treatment of parosteal lipoma comprises a complete surgical treatment. In the

case with nerve entrapment, the tumor must be removed before irreversible atrophic change of muscle. The parosteal lipomas strongly adhere to the underlying periosteum of affected bone. When located in the ribs, a segment of the rib is included en-block with the specimen. Local recurrence is unusual and malignant transformation has not been documented yet.³

In summary we have described an extremely rare case of parosteal lipoma of the rib and location only in the thoracic cavity seen in our case has not been described in the earlier reports of parosteal lipoma of the ribs. Even though the incidence is extremely rare, clinicians should include parosteal lipoma in the radiologic and pathologic differential diagnosis of the thoracic wall masses.

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