Göğüs Duvarının Primer Leiomyomu

Primary Leiomyoma of The Chest Wall

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ABSTRACT

Thirty-eight-year-old female patient presented with 3 months history of chest pain. Chest x-ray showed a mass of 8×6 cm in size in the right middle and lower lung fields. Computed tomography of the thorax demonstrated a cystic lesion in the right lung. A right thoracotomy was performed. The mass originated from the chest wall with its base on the 6th rib. The tumor was excised and partial costal resection was performed. The macroscopic features of the tumor were a soft, smoothly surfaced white mass of 8×5×4 cm in size. Histopathologically, the tumor consisted of packets and bundles of smooth muscle fibers without significant celluler pleomorphism, necrosis and mitotic activity. Immunohistochemically, smooth muscle actin and vimentin was positive but S-100 protein was negative in tumour cells. No pathological finding was detected during follow-up.

Keywords: leiomyoma, chestwall, surgery

ÖZET

Otuz sekiz yaşında kadın hasta üç aydır devam eden göğüs ağrısı yakınmasıyla başvurdu. Göğüs grafisinde sağ orta ve alt zonda 8×6 cm boyutunda kitle saptandı. Bilgisayarlı toraks tomografisinde sağ akciğerde kistik lezyon görüldü. Hastaya sağ torakotomi uygulandı. Kitle 6. kotla ilişkide olup göğüs duvarından kaynaklanıyordu. Tümör çıkarıldı ve parsiyel kot rezeksiyonu yapıldı. Makroskopik olarak tümör yumuşak, düzgün yüzeyli, 8×5×4 cm boyutlarında, beyaz renkte bir kitle olarak görüldü. Mikroskopik olarak belirgin hücresel pleomorfizm, nekroz ve mitotik aktivite olmaksızın düz kas liflerinin oluşturduğu bant ve paketler içeriyordu. İmmünohistokimyasal olarak aktin ve vimentin pozitif, S-100 proteini negatifti. Takip süresince patolojik bulgu saptanmadı.

Anahtar kelimeler: leiomyom, göğüs duvarı, cerrahi

INTRODUCTION

Leiomyomas are benign tumors of smooth muscle. They occur most commonly in the uterus but may be found wherever smooth muscle is present.[1] A few smooth muscle tumors arising from mediastinum, lung or diaphragm have been reported in the thorax.[2,3] However, leiomyoma originating from the chest wall is extremely rare.[2,4] We present a case with primary leiomyoma of the chest wall.

CASE

A thirty-eight-year-old female patient was admitted to a health center with a complaint of backache lasting for three months. She received antibiotic and analgesic for one week but her complaints did not improve. She was referred to our hospital after postero-anterior chest X-ray revealed a lesion. She was a nonsmoker and had a history of tuberculosis contact. Postero-anterior chest X-ray showed an 8×6 cm mass lesion on right middle and lower zone **(Figure 1)**. Physical examination was normal. Blood and urine analysis were normal. Erythrocyte sedimentation rate was 20 mm/h, C-reactive protein level was normal. Computed tomography of the thorax revealed a 8×6 cm cystic mass lesion on lower, lateral and posterior lung field **(Figure 2)**. Blood smear was normal. Serologic tests for hydatid disease were negative. Bronchoscopy was normal. FEV1 was 2.52 L (100%) and FVC was 2.81 L (100%). Right thoracotomy was performed. The mass was originating from the chest wall and was in close association

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to sixth rib. The tumor was removed and partial rib resection was performed. Macroscopically the tumor was 8×5×4 cm in size, soft, white and has smooth surface **(Figure 3)**. Histopathological examination showed benign spindle cells with no mitosis, necrosis, or pleomorphism making bunches **(Figure 4)**. Smooth muscle actine and vimentine were positive and S-100 protein was negative. With these findings the diagnosis of leiomyoma was established. There were no signs of recurrence 16 months after the operation.

DISCUSSION

Leiomyoma is a benign tumor that derives from smooth muscle fibers, located mainly genitourinary, gastrointestinal and, very rarely, respiratory tract. At the thoracic level, this tumor can originate from the esophagus, bronchi or vascular structures; therefore, its location can be mediastinal, pulmonary parenchyma, chest wall, diaphragm and pleural cavity.[3,5-8]

Primary leiomyoma of the chest wall is extremely rare, and so far only a few cases have been reported.[4,6] Inberg et al[7] described two cases of primary leiomyoma originated from intercostal space. In Hsu's series,[5] there were two patients with primary leiomyoma among 62 patients with primary chest wall tumors. A case of leiomyoma of chest wall was defined by Tanaka and colleagues,[9] a case of a leiomyoma originated from the microvascular smooth muscle in the chest wall was presented by Nosa et al[2] and a case of this tumor was reported by Turhan et al.[4] We are presenting a new case of primary leiomyoma of the chest wall.

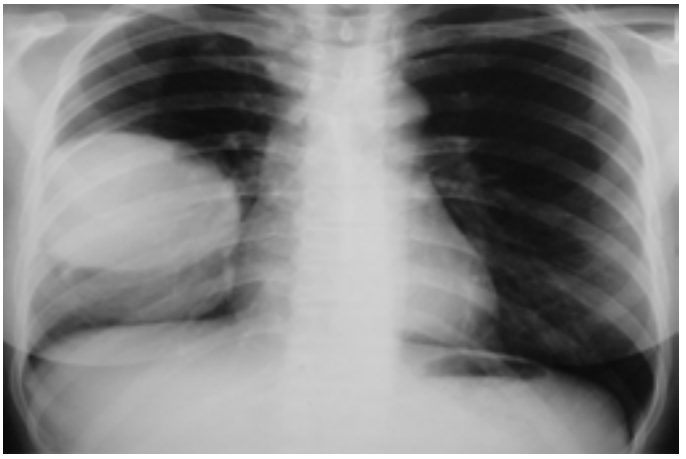

Figure 1. Chest X-ray shows an 8×6 cm mass lesion on right middle and lower zone

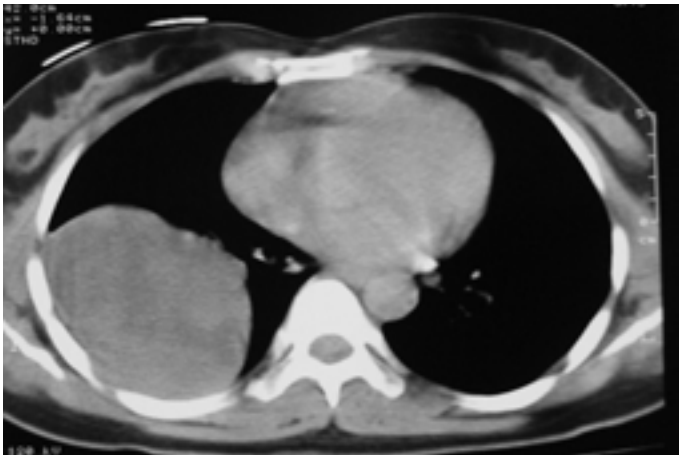

Figure 2. Computed tomography of the thorax shows a 8×6 cm cystic mass lesion on lower, lateral and posterior lung field.

Figure 3. Macroscopically the tumor was 8×5×4 cm in size, soft, white and has smooth surface.

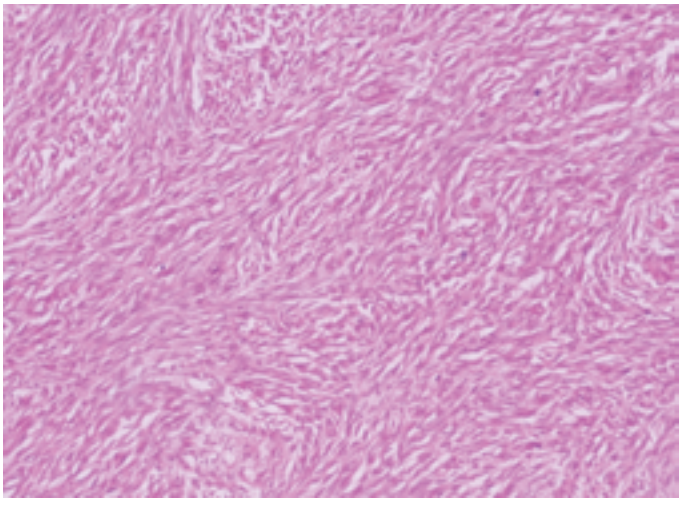

Figure 4. Histopathologic examination shows benign spindle cells with no mitosis, necrosis, or pleomorphism making bunches

The most interesting feature of this tumor is its origin. The leiomyoma is classified as piloleiomyoma, genital leiomyoma, or angioleiomyoma based on its origin. Angioleiomyoma is formed by proliferation of smooth muscle cells in the vascular wall.[2,10] In most the previously reported cases, the tumor was angioleiomyoma originating from smooth muscle cells of the small vascular wall in the extrapleural tissue.[2] Regarding the growth of angioleiomyomas, theories include an estrogen theory, traumatic theory, and congestive theory.[11] A previous report analyzed five cases of leiomyoma arising from the chest wall. All cases were asymptomatic and 4 of 5 patients were young to middle aged women.[2] We reported a 38 year old female patient. She was symptomatic.

The clinical course of leiomyoma of the chest wall is not always concordant with histological findings.[2,4] Leiomyomas can grow very large, cause serious symptoms or signs and degenerate to a malignant tumor.[6] The treatment of choice is excision to avoid symptoms and signs and confirm the diagnosis because this tumor is a well-defined entity with a low, but definite malignant potential. Therefore, complete resection is recommended.[2,6] Surgery can be done by video-assisted thoracoscopic surgery for localized small lesions and thoracotomy should be reserved for large tumors, as in our case. Previous reports pointed out that there was no symptoms or signs of relapse after complete resection.[2,4,6] Our patient's postoperative course was normal, and there were no signs of recurrence 16 months after the operation.

In conclusion, primary leiomyoma of the chest wall is an infrequent tumor. Despite its benign histological appearance, this tumor has a low malignant potential, and therefore complete resection and a close follow-up of patients is advised.

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