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Rare Soft Tissue Mass: Myoepithelioma Around the Knee

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Abstract

Myoepithelioma is included in the group of myoepithelial carcinomas and mixed tumors, which are rarely seen. Although many soft tissue masses have been diagnosed with various imaging methods but some soft tissue masses are undiagnosed with imaging methods. A 56-year-old male patient presented to our outpatient clinic with a soft tissue mass in front of his left knee. In the left knee examination, the extensor mechanism was intact and the left knee flexion extension motions were complete. On palpation, a soft tissue mass of approximately 1x1 cm was detected under the skin lateral to the patellar tendon. A non-specific solitary soft tissue mass was detected in the subcutaneous tissue lateral to the patellar tendon in MRI. Soft tissue mass was excised. Result of pathology of soft tissue was reported as myoepithelioma. Clinicians and radiologists should include myoepithelioma in differential diagnosis when evaluating soft tissue masses around the knee.

Keywords: Knee, Soft tissue mass, Myoepithelioma, Tumour

Nadir Görülen Yumuşak Doku Kitlesi: Diz Çevresinde Miyoepitelyoma

Öz

Miyoepitelyoma, nadir görülen miyoepitelyal karsinomlar ve karışık tümörler grubuna dahildir. Her ne kadar birçok yumuşak doku kitlesi çeşitli görüntüleme yöntemleri ile tanı alabilse de bazı yumuşak doku kitlelerinin görüntüleme yöntemleri ile tanısı konulamamaktadır. 56 yaşında erkek hasta polikliniğimize sol dizinin önünde yumuşak doku kitlesi ile başvurdu. Sol diz muayenesinde ekstansör mekanizması sağlamdı ve sol diz fleksiyon extansiyon hareketleri tamdı. Palpasyonda patellar tendon lateralinde deri altında yaklaşık 1x1 cm boyutlarında yumuşak doku kitlesi tespit edildi. Manyetik rezonans görüntülemede patellar tendon lateralinde subkutan dokuda spesifik olmayan soliter yumuşak doku kitlesi tespit edildi. Yumuşak doku kitlesi eksize edildi. Patoloji sonucu miyoepitelyoma olarak belirlendi. Klinisyenler ve radyologlar, diz çevresindeki yumuşak doku kitlelerini değerlendirirken ayırıcı tanıda miyoepitelyomayı da ayırıcı tanılar içine almalılar.

Anahtar Kelimeler: Diz, Yumuşak doku kütlesi, Miyoepitelyoma, Tümör

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Introduction

Soft tissue masses are forefront of applications to orthopedic outpatient clinics. Although many soft tissue masses have been diagnosed with various imaging methods but some soft tissue masses are undiagnosed with imaging methods (1).

Myoepithelioma is included in the group of myoepithelial carcinomas and mixed tumors, which are rare and do not differ according to the classification of the world health organization (2). High-grade lesions showing cytological atypia are called myoepithelial carcinoma. Forms with low cytological atypia are classified as myoepithelioma. Histopathologically, it differs from mixed tumors by the absence of a ductal component. Myoepitheliomas are usually benign but locally recurrent tumors. They are more common in middle-aged male patients at the lower extremities (3). Subcutaneous tissue mass without tenderness is the main clinical finding (4). Myoepithelioma and benign mixed tumors in bone require radical treatment. This group of tumors have the potential to become malignant and metastasis (5).

Case report

A 56-year-old male patient presented to our outpatient clinic with a soft tissue mass in front of his left knee. He had complaint about 5 years. Norovascular deficit was not detected in the left lower extremity in physical examination of the patient. Extensor mechanism was intact and left knee flexion extension motions were in normal range. Meniscus, anterior posterior cruciate ligament and other ligament examinations of the knee were normal. A soft tissue mass of approximately 1x1 cm was detected under the skin lateral to the patellar tendon. There was no pathology in osseosis structures on the direct radiographs. Magnetic resonance imaging (MRI) was performed for the left knee. A non-specific solitary soft tissue mass was detected in the subcutaneous tissue lateral to the patellar tendon in MRI (Figure 1,2). Radiology report was a non-specific soft tissue mass and ganglion cyst was radiological pre-diagnosis was ganglion cyst. Surgical treatment was recommended to the patient. Our preliminary diagnosis before surgical treatment was that it might be a parameniscal cyst or ganglion cyst.

A 1 cm longitudinal incision at the level of the mass lateral to the patellar tendon was performed under the tourniquet. Mass was excised sharply outside the lesion using cautery. The soft tissue mass was about 0.5x0.5 cm in size and found to be rigid fibrotic and sharply limited. The excised material was sent for pathological evaluation (Figure 3).

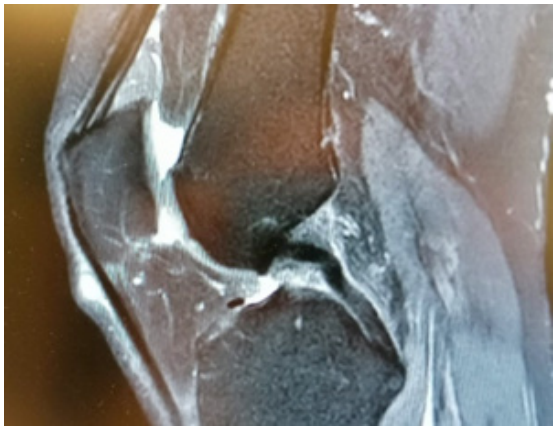

Figure 1. Pre-op sagittal T2 MRI images of knee with soft tissue mass

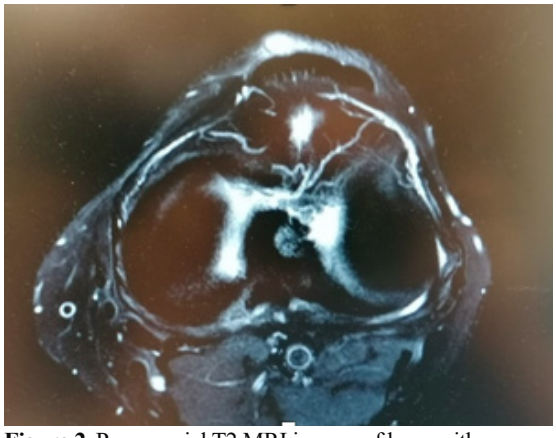

Figure 2. Pre-op axial T2 MRI images of knee with soft tissue mass

Figure 3. Excised view of the mass

In microscopic examination; round proliferation was separated from environmental connective tissue with regular border. Spindle and epiteloid cells were detected in the chondromyxoid stroma. Lobular structures consisting of nests and cellular layers formed by spindle and epiteloid cells and were detected. Result of pathology of soft tissue was reported as myoepithelioma (Figure 4,5).

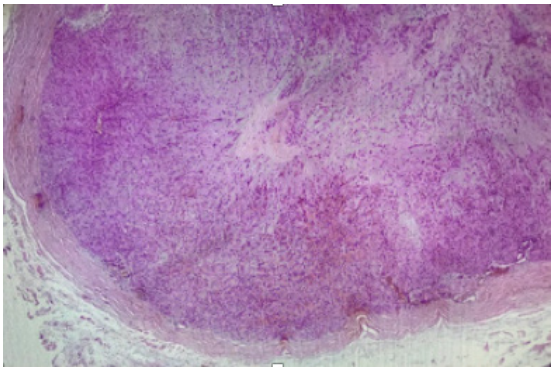

Figure 4. The tumour cells are arranged in nests and cords. Photomicrograph with H&E staining x 10

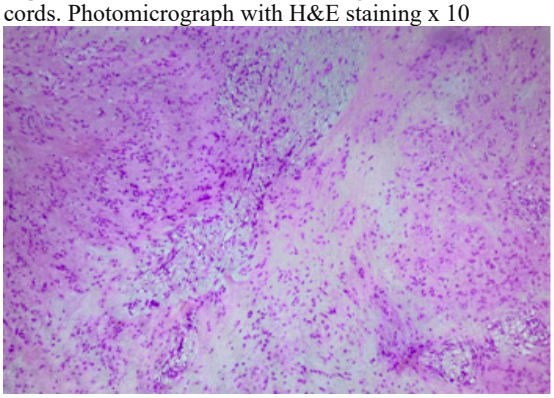

Figure 5. The tumour cells are arranged in nests and cords. Photomicrograph with H&E staining x 40

Patient did not have any clinical complaint during post op 1 year follow-up. Range of motion of left knee were with normal range without restriction. Extensor mechanism was intact and there was no recurrence in the area where surgical excision was performed.

Discussion

Myoepitheliomas are 2 times more common in extremities than head and neck. Myoepithelial carcinomas show an similar distribution in the head, neck, body and extremities. 15% heterogeneous differentiation is observed in soft tissue myoepitheliomas. This differentiation is generally seen in the direction of osseosis or cartilage tissue. Rarely squamous or adipotic metaplasia can be seen (3).

Soft tissue myoepithelioma is similar to pleomorphic adenoma originating from salivary gland in radiological imaging methods and it is impossible to differentiate benign and malignant with radiological imaging methods (6). Differential diagnosis was not made with MRI in our case as stated in the literature.

Myoepithelioma is common between 3 and 5 decades (3). The age of our patient is compatible with the literature.

Size of low grade tumors were between 0.4 and 6.8 cm and the average was 2.3 cm. Only 2 tumors were 5 cm or more in size. Tumor size was determined between 1.6-14.8 cm in high-grade tumors and mean was 6.7 cm. only 2 tumoral masses were 5 cm and below (7). 101 myoepithelioma patients were evaluated in the study of Hornick et al., and the size of bening tumors was determined as an average of 3.8 cm between 0.7-12 cm. It was determined that the malignant tumors were 5.9 cm on average between 1.5-20 cm and malignant tumors were larger than bening tumor (3). Tumor size was approximately 1 cm in our case and size of tumor was compatible with benign tumors in the literature.

The main treatment of soft tissue myoepitheliomas is surgical excision. Chemotherapy has no effectiveness on

metastasis. Perioperative radiotherapy is recommended in the treatment of high-grade masses in addition to surgery (7). Local recurrence was not detected as a result of 1 year follow-up of our patient.

Conclusion

It is rare situation for myoepithelioma to be localized around the knee. In conclusion, while clinicians and radiologists evaluate soft tissue masses around the knee; they should include myoepithelioma in the differential diagnosis when planning surgery.

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