

An Unusual Giant Synovial Cyst: MR Imaging Findings

NADİR GÖRÜLEN DEV SİNOVİAL KİST: MRI GÖRÜNTÜLEME BULGULARI

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Summary

Purpose: Cystic lesions around the knee joint are common and frequently encountered in daily practice. The cysts may directly communicate with the knee joint, may arise from a noncommunicating bursa, or may lie within the surrounding soft tissues. Most cysts are encountered incidentally. Occasionally, cysts may cause pain, or impair joint function and therefore may require resection.

Case Report: In this report, we presented a female patient with left knee pain for one year diagnosed as having an unusual giant synovial cyst in her left patellar region.

Conclusion: A case of giant synovial cyst above the knee joint was diagnosed by means of MRI. The lesion was arising from suprapatellar bursal pouch. Surgical resection (arthroscopy) was performed. The patient has been on follow-up. The synovial cyst should be kept in mind for differential diagnosis of tumoral mass.

Key Words: Synovial cyst, Knee joint, Magnetic resonance imaging

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Özet

Amaç: Diz çevresinde kistik lezyonlar sık olup, günlük pratiklerde de sıklıkla rastlanır. Kistler direkt olarak diz eklemi ile ilişkili olabilir, ilişkili olmayan bursadan kaynaklanabilir veya etrafını çevreleyen yumuşak dokuların içinde uzanabilir. Birçok kistler, tesadüfen saptılır. Nadiren, kistler, ağrıya neden olabilir veya eklem fonksiyonunu bozabilir ve bu yüzden rezeksiyon gerekebilir.

Olgu Sunumu: Bu çalışmada, sol diz ekleminde, bir yıldır ağrısı olan ve sol patella bölgesinde yerleşmiş dev sinovial kistin teşhis edildiği, bir kadın hastayı, vaka olarak sunduk.

Sonuç: Diz üzerinde yerleşmiş dev sinovial kist, MRI vasıtasıyla, teşhis edildi. Lezyon, suprapatellar poştan kaynaklanıyordu. Cerrahi rezeksiyon yapıldı. Hasta takibe alındı. Sinovial kist, kitle ayırıcı tanısı açısından, akla gelmelidir.

Anahtar Kelimeler: Sinovial kist, Diz eklemi, Magnetik rezonans görüntüleme

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A wide variety of cystic lesions may be encountered in the soft tissue and bones of the knee on MR imaging (1). Correct MR diagnosis is needed to avoid unnecessary arthroscopy and to guide specific therapy (1). Synovial cysts are commonly recognized at the knee region such as a popliteal or Baker's cyst (1). A popular theory for cyst formation is that an increase in intraarticular pressure, perhaps due to active synovitis or joint injury, causes an outpouching of the joint capsule which then herniates to form the synovial cyst (1,2).

We report a case of an unusual giant synovial cyst (12.5 X 7.5 cm) that arose from the suprapa-

tellar bursa, which was surrounding the left femur from frontal and lateral aspect.

The purpose of this study is to illustrate the MR appearance of cystic lesions that can be found around the knee and to explain the clinical features, differential diagnosis and the significance of these lesions.

Case Report

A 33-year old woman was referred to the Physical Medicine and Rehabilitation outpatient clinic for assessment of a painful mass on the front of her left patella. The 12.5 X 7.5 cm mass, on the left patella, adjacent to the left femur, had

been present for about one year. It was tender on palpation and there was swelling on left thigh.

Neurologic examination of the lower extremity was normal. On examination of left knee; the range of motion of the joint was normal but, painful as a result of the presence of mass. The range of motion of the hip was also normal. Laboratory examination was also normal (CRP<3.4 mg/dl, ESR; 11 mm/h, ALP; 194 U/L, RF<10.2 IU/ml, uric acid; 4.7 mg/dl, calcium; 9.1 mg/dl, phosphorus ;3.7 mg/dl).

Radiographs of the left knee was normal. Ultrasound showed a thick walled cystic lesion at the 1/2 inferior of the left thigh, originating from the suprapatellar bursa which was expanding to the anterior aspect of the left femur. Magnetic resonance images (MRI Figures 1 and Figure 2) showed a large cyst (12.5 X 7.5 cm), arising from the anterior aspect of the left suprapatellar bursa. It was surrounding the left femur frontally and laterally. Following gadolinium administration, there was uniform, enhancement of the wall of the cyst with a non enhancing central component (T1 and T2-weighted coronal and sagittal MR images of left knee show high signal intensity at the frontal and lateral aspect of the left femur as a result of the presence of synovial cyst arising from suprapatellar bursa. No muscular, ligamentous, meniscal or osseous abnormalities were identified.

Arthroscopy was performed and cyst was resected.

Discussion

Cystic lesions around joints are a common clinical problem. Histologically, synovial cysts are lined by synovial cells, contain fluid, and may or may not communicate with the adjacent joint (1). They are the consequence of either a herniation of synovium or fluid distention of a paraarticular bursa. Synovial cysts contain fluid and may undergo hemorrhage (1). The clinical presentation of a paraarticular cyst depends on its location, size, mass effect, and relationship to surrounding structures. They may cause pain, swelling, nerve compression, erosion or joint impairment (1,2). Para-

Figure 1. Sagittal T2 weighted Me image shows fluid distending suprapatellar bursa and related giant synovial cyst extending around the left femur anteriorly and laterally.

Figure 2. Coronal T2 weighted MR image of same shows large mass of synovial cyst related with suprapatellar bursa of the frontal aspect of the left femur.

articular cysts frequently are associated with abnormalities in the adjacent joints (3). In this case, our

patient had painful mass with clinical swelling on her thigh which was defined as synovial cyst adjacent to suprapatellar bursa on MRI imaging. However, we could not find any other pathologic lesion underlying the synovial cyst or any history of trauma in our patient. The suprapatellar bursa develops proximal to the knee joint capsule as a separate synovial space. Suprapatellar bursa communicates with knee joint. Fluid accumulation in bursa may mimic a soft tissue tumor above the knee joint (4).

MRI is a very effective noninvasive method for confirming the diagnosis and defining its anatomical relationship to adjacent structures. MR imaging is superior to all other imaging modalities for investigating soft tissue abnormalities (6,7).

The differential diagnosis should include juxta articular or intramuscular myxoma, schwannoma, neurolemma, or synovial sarcoma (7-9). Pigmented villonodular synovitis should also be considered. Synovial osteochondromatosis can mimic an intraarticular cyst on MR images. Synovial hemangiomas, hematomas or enlarged vessels may stimulate synovial cyst related with bursa (1,2).

Aspiration and corticosteroid injections of the cyst have had limited success. Most reported cases were treated surgically with complete resection and this is recommended by most authors

(4,5,10). Surgical excision was performed and the patient remained asymptomatic. She was on follow-up.

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