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Short communication

Intraarticular fibroma of the posterior compartment in the knee A case report

Jin Hwan Ahn, Yong Seuk Lee*, Dong Hoon Lee, Hae Chan Ha

Department of Orthopedic Surgery, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, South Korea

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Abstract

Posterior knee discomfort and recurrent effusion of the left knee occurred in a 49-year-old man without a history of specific trauma. Magnetic Resonance Imaging (MRI) and an arthroscopic examination revealed a soft tissue mass arising from the posterolateral capsule. The microscopic diagnosis was a fibroma, which is a rare entity in this location. To the best of our knowledge, only four cases of fibroma in the knee have been reported. It was reported that more than 99% of fibromas arise from tendon sheaths or tendons. They sometimes present a diagnostic problem due to their relative rarity in this location and obscure histological features. Fibroma should be included in a differential diagnosis of a soft tissue tumor arising from the knee joint. However, an arthroscopic excision was curative in our case.

Keywords: Knee; Intraarticular portion; Posterior compartment; Fibroma

1. Introduction

A variety of tumors or tumorous conditions of the synovium should be considered in a differential diagnosis when swelling, pain and a limitation of motion occur without a history of specific trauma. Localized nodular synovitis, pigmented villonodular synovitis and synovial chondromatosis can occur in the knee joint. Other rare conditions include hemangioma, lipoma and tenosynovial fibroma [1]. Among them, fibroma is a benign tumor that mainly affects the hands and fingers. It was reported that more than 99% of fibromas arise from the tendon sheaths or tendons [2–4], and rarely occur in the joint capsules. Fibroma of the knee is rare with only four previous cases being reported (Table 1) [1,3,5,6]. We encountered a case of fibroma originating from the posterolateral joint capsule of the knee. The diagnosis using MRI and biopsy, as well as the arthroscopic treatment and follow-up MRI of this case are described.

2. Case report

A 49-year-old man presented with a 2-year history of posterior knee discomfort and recurrent effusion of the left knee without a history of specific trauma. The physical examination revealed moderate degrees of effusion and a 20° limitation of motion compared with the right side when the knee was flexed. Plain radiographs of the left knee showed no specific abnormalities. The MRI examination showed a soft tissue mass that occupies posterolateral femoral recess and gutter. The mass had low-signal intensity on the proton density images and heterogeneous low-signal intensity that included focal high-signal intensity even though the signal intensity of the focal high-signal area was lower than fluid on the T2-weighted images. Proton density fat suppression images showed similar findings with the proton density images (Fig. 1A,B,C).

An arthroscopic examination under general anesthesia was performed on the left knee. There was no ligamentous, meniscal injury, but mild degenerative changes in the medial femoral

* Corresponding author. Department of Orthopedic Surgery, Samsung Medical Center, Sungkyunkwan University, School of Medicine, 50 Ilwon-dong, Kangnam-gu, Seoul 135-710, South Korea. Tel.: +82 2 3410 3509; fax: +82 2 3410 0061.
E-mail address: smcos1@hanmail.net (Yong Seuk Lee).

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Table 1
Reported cases of fibromas of the knee

Authors	Gender	Age	Major symptom	Size (cm)	Procedure	Location
Ogata et al.	Female	16	Effusion	2.0×1.5×1.0	Arthroscopy	Posterior cruciate ligament
Pinar et al.	Male	38	Swelling	7.0×4.0×1.5	Arthroscopy and open	Suprapatellar pouch
Hitora et al.	Male	50	Mass	5.0×4.0×3.0	Open	Posterior capsule
Takakubo et al.	Male	39	Discomfort	3.2×3.0×2.3	Arthroscopy	Posterior capsule
Our case	Male	49	Discomfort and effusion	3.5×1.2×1.0	Arthroscopy	Posterior capsule

condyle. A view from the AM portal through trans-notch revealed an encapsulated soft tissue mass arising posterior capsule in the PL area (Fig. 2). For an excision of the mass, the far lateral side was excised through the PL portal using the probe, arthroscopic scissor and motorized shaver, and the PM side was excised from PM portal through the trans-septal portal. However, access to the

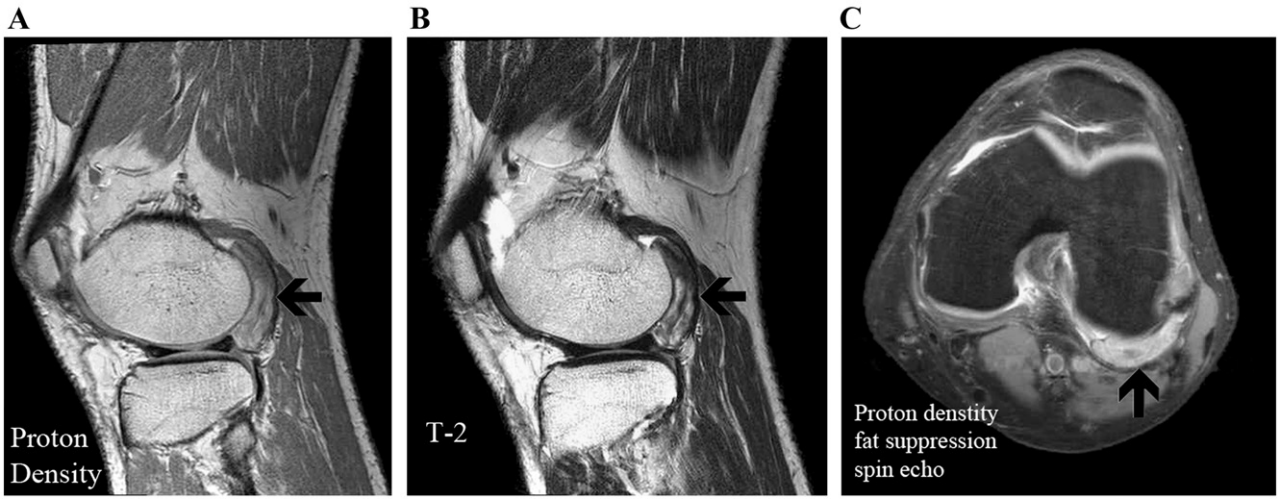

Fig. 1. A) Proton density image showing low-signal intensity. B) T-2 weighted image showing heterogeneous low-signal intensity that includes focal high-signal intensity even though the signal intensity of the focal high-signal area was lower than the fluid. C) The axial image of the proton density fat suppression showed the mass located posterolaterally with similar signal intensity to the proton density.

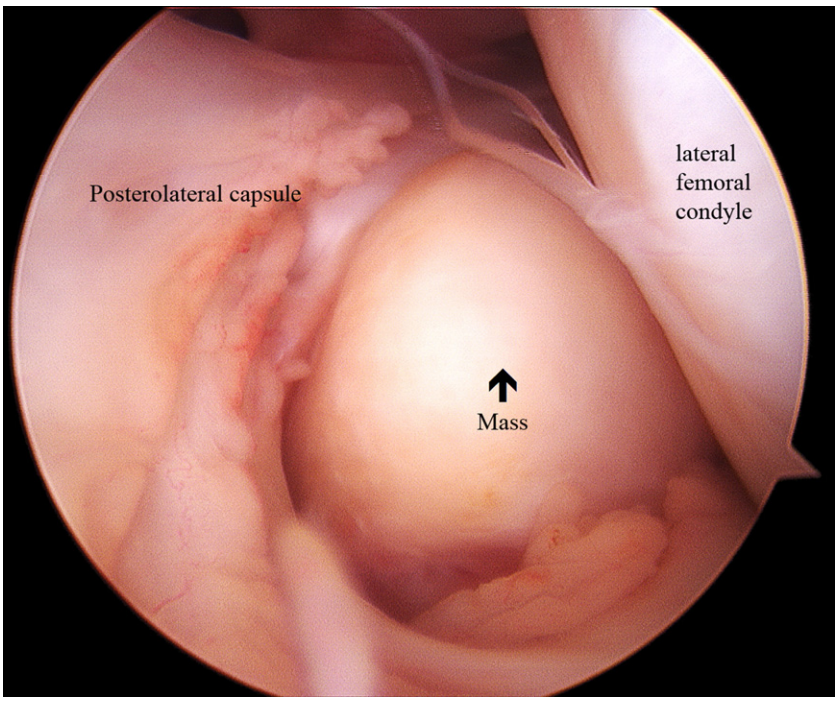

Fig. 2. The mass occupied the posterolateral femoral recess and gutter with firm attachment especially to the superior aspect of the posterolateral capsule.