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ACL Femur Cyst Very Rare Presentation – A Case Report

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Learning Point of the Article:

Individuals who present with complaints of knee pain and restricted deep flexion, mucoid degeneration of the ACL, or femur ganglion cyst should be given careful consideration.

Abstract

Introduction: A ganglion cyst is just an accumulation of gelatinous fluid in thick covering that develops from the capsules around tendons or joints . The cause is unknown; however, several suggestions have been put forth, including ectopic tissue development, synovial herniation, and trauma . The clinical symptoms differ based on the location. Management techniques such as non-operative, computed tomography-guided aspiration, open debridement, arthroscopic debridement, and decompression are advised.

Case Report: Here, we report a 32-year-old man who had no history of severe trauma but had been complaining of knee flexion pain for the previous 3 years. There is no clinical laxity, and no additional injuries were observed. The patient had a magnetic resonance imaging (MRI) and an X-ray conducted. X-ray appears normal. The femur foot print location has a big cystic lesion seen on the MRI, located behind the ACL. No other anomalies are found.

Conclusion: Femoral ganglion cysts are frequently missed but can be diagnosed with the use of a clinical examination and a link between the clinical findings and MRI. The pain is reduced with arthroscopic cyst decompression.

Keywords: Femur ganglion cyst, arthroscopic cyst decompression.

Introduction

The first intra-articular cyst within anterior cruciate ligament (ACL) was described in 1924 by Caan [1]. Numerous etiologies have been hypothesized for ganglion cysts connective tissue mucinous degeneration, ectopic tissue development, and trauma [2-4]. The most frequent location is the wrist, while the most common location in the knee is the anterior cruciate ligament (ACL), followed by the meniscus and posterior cruciate ligament [5]. According to published research, ganglia associated with the ACL are present in 0.12–0.44% of cases of magnetic resonance imaging (MRI) [6,7]. Ganglion cysts do not happen very often. The ACL is frequently impacted. ACL, posterior cruciate ligament (PCL), and meniscus are the only additional structures where ganglion cysts are frequently found. The infrapatellar fat pad, medial plica, and popliteus are the three locations where they are the least common [8].

Either one or more of them exist. Often unilateral, reports of bilateral presentations are also occasionally made. Meniscal tears have been linked to ganglion cysts on occasion.

The ACL ganglion cysts are rarely symptomatic. They should be confirmed with an MRI to rule out other pathologies. Then, depending on their location they are managed either by computed tomography (CT)-guided aspiration for cysts behind

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Author's Photo Gallery


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Figure 1: t2 Saggital images showing large fusiform-shaped cystic lesion behind the anterior cruciate ligament.

PCL or arthroscopic debridement and excision to prevent recurrence.

Case Report

A 32-year-old male patient arrived complaining of soreness across the back of his right knee that had persisted for 2 years without any prior trauma history.

Figure 2: Skin portals used for the surgery.

Clinical findings

Before surgery, clinical testing was done, and there were no indications of instability. There is deep flexion pain, but there is no ultimate restriction to extension or indications of instability.

Diagnostic assessment

The patient was instructed to have X-rays and a knee MRI to be further evaluated. X-rays show no abnormalities, and when an MRI of the knee was performed, a cystic lesion was seen in the t2 saggital portion of the knee, encircling the posterior part of the ACL at the femur footprint (Fig. 1).

Surgical technique

Evaluation portals used

Portal A - Standard arthroscopic anterolateral (AL) portal which is 1 cm inferior and lateral to the inferior pole of patella

Portal B - Standard anteromedial (AM) portal which is determined using a spinal needle (Fig. 2).

Surgical technique

The patient is placed supine under spinal anesthesia, and an 11-bladed conventional arthroscopic AL portal is created. After a diagnostic arthroscopy, a ganglion cyst located behind the ACL (Fig. 3) is discovered; the menisci and cartilage are unaffected.

Anteromedial portal placement, shaving, and debridement of the Hoffa fat pad are performed with the aid of a spinal needle. Using a radiofrequency probe and portal switching, the ganglion cyst behind the ACL is excised.

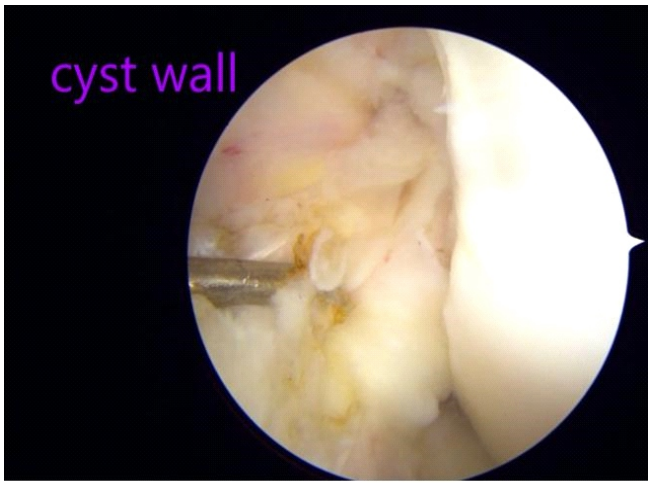

Figure 3: Diagnostic arthroscopy shows cyst wall behind the anterior cruciate ligament.

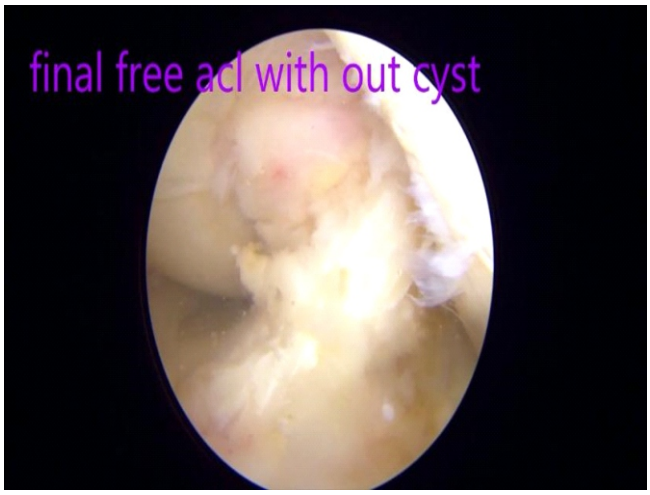

Figure 4: Anterior cruciate ligament (ACL) is finally free from cyst and ACL is intact.

Fig. 4 shows that there are no indications of instability following decompression – Bandage application and wound closure.

Post-operative rehabilitation

Weight-bearing is allowed on day 1. Ankle pumps and gluteal strengthening exercises are started. Quadriceps strengthening is started, and knee core strengthening exercises have been done. Was the tissue/fluid sent for CS/histopathology? No biopsy or culture has been sent for study of the tissue or fluid. What was the last follow-up? And outcome? When the ACL laxity was eventually examined, no laxity was observed. The patient experienced no pain during their 6-month follow-up.

Discussion

ACL ganglion cysts are quite uncommon. Numerous theories have been put out concerning the etiology. The majority of ganglion cysts show no symptoms. It is crucial to do a thorough clinical evaluation, which should be supported by MRI imaging.

They range in size from 5 to 30 mm and have a variety of forms, including fusiform spindle and oval.

Our measured cyst measured 22 by 12 mm, directly behind the ACL. Since ganglion cysts are circumscribed masses without locules, MRI is an adequate tool for distinguishing them from other disorders, such as pigmented villonodular cysts and mucoid degeneration.

Krudwig et al. documented 85 instances of intra-articular ganglion cysts, of which 9 were symptomatic and the remaining 76 were asymptomatic. All 9 patients had no prior history of trauma.

There are several approaches to treating intra-articular ganglions. They were given conservative treatment if they were incidental observations and asymptomatic. Surgery is necessary for the symptomatic cysts. Arthroscopic debridement, excision, and needle aspiration were the methods.

Nokes et al. used CT guidance to aspirate PCL ganglion cysts to avoid damaging neurovascular tissues [10].

Arthroscopy offers more accurate and straightforward visualization. The portals used varied according to the location of the cyst. The cyst that is present at the tibia footprint of the ACL and intrasubstance of the ACL can be adequately treated by the usual AM and AL portals.

For thorough debridement and excision that prevents recurrence, cysts that were not receptive to am and al portals, such as cysts behind PCL, require additional portals.

We should be equipped with instrumentation for reconstruction intra-operatively if there is a need.

We performed arthroscopy using AM and AL portals, which are sufficient for adequate decompression and debridement.

Conclusion

Patients who have internal knee derangement, complain of pain over the knee, and have a terminal loss of range of motion should be thoroughly clinically assessed. Additional testing, such as MRIs, may be necessary. MRI suffices for the confirmation. For ganglion cysts, arthroscopic debridement and excision is the usual course of treatment to avoid recurrence.

Clinical Message

It is quite uncommon for an ACL ganglion cyst to present. The presentation of clinical symptoms varies in the region, presenting as discomfort and impaired deep flexion or extension. With MRI, they ought to be verified.

Declaration of patient consent: The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given the consent for his/ her images and other clinical information to be reported in the journal. The patient understands that his/ her names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Conflict of interest: Nil **Source of support:** None

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