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Mucoid Degeneration of the Anterior Cruciate Ligament: A Case Report

Dr. Basil Al Arabid [1], Dr. Wail Tilakh [1], Dr. Mohammed Nadir Sekkal *[2], Dr. Asma Al Alawi [3]

1. Orthopedic Consultant, Tawam hospital, Al Ain, UAE.

2. Orthopedic Specialist, Tawam hospital, Al Ain, UAE

3. Family Medicine Resident, Al Ain, UAE

Corresponding Author: Mohammed Nadir Sekkal, Department of Orthopedic Surgery, Tawam Hospital, Al-Ain, United Arab Emirates.

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Introduction

- A very rare cause of knee pain.
- Infiltration of mucoid like substance (glycosaminoglycans) within ACL causing knee pain and limited motion
- Misdiagnosed !! because of the rarity of this condition or delaying the magnetic resonance imaging (MRI) of knee.
- ACL ganglion cyst and ACL mucoid degeneration similarities
- Associated with insidious onset chronic knee pain They may also present as a limited range of motion
- Most often occur independently, but they may also coexist
- These are often discovered incidentally on MRI of the knee or knee arthroscopy

	Ganglion cyst	Common criteria	Mucoid degeneration
1	Fluid signal in the substance of the ligament with at least two of the three following criteria	ACL fibers intact and uninterrupted from tibial to femoral insertion	Ligament fibers poorly seen on T1-weighted images
2	Mass effect on anterior cruciate better ligament fibers	Possibly associated with joint effusion or bony cysts	Ligament bundles and fibers seen on T2-weighted images
3	Ligament signal stronger than joint fluid		
4	Lobulated with definite margins		

Clinical history

An 18-year-old male was referred to our hospital as a case of suspected musculoskeletal tumor

Presented with a history of a non-specific right knee pain without instability noticed after sustaining minor trauma.

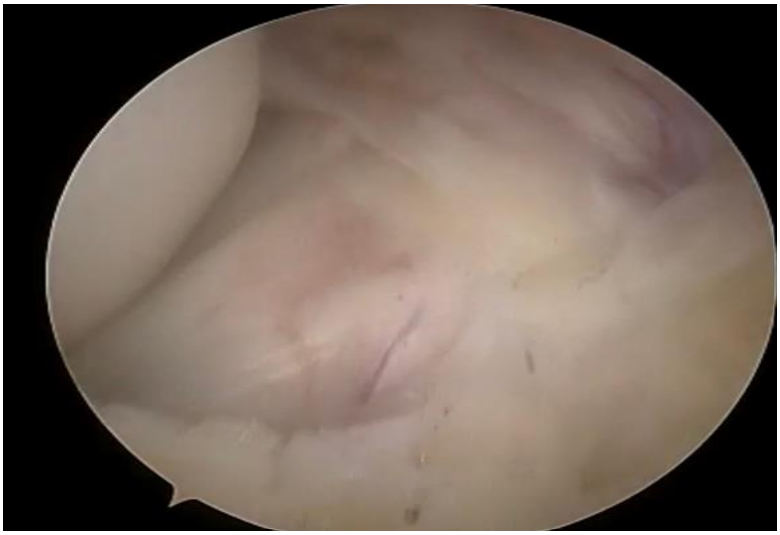
Prior to the trauma no previous knee problems were noted. No family history of similar joint pain.

Physical Examination

Knee and hip did not reveal any abnormal findings except for right knee joint swelling and effusion and there was no reproduction of pain during examination with full Range of motion without a ligamentous laxity or patella- femoral pathology. McMurray's, apprehension's and Lachman tests were negative.

Based on the patient's clinical presentation and the MRI findings, we suspected mucoid degeneration of the ACL as the cause of the patient's symptoms.

Arthroscopic examination



Post- debridement arthroscopic view

Microscopic Description:

Specimen shows multiple fragments of loose fibrocollagenous, fibroadipose tissue and skeletal muscle bundles. Some of the fragments show benign synovial lining. Thin-walled blood vessels of varying caliber are seen scattered throughout the fragments.

Hyalinized foci and focal myxoid stromal changes are present.The definitive diagnosis of is established with histopathology.

Discussion

- MD is a rare pathology of ACL
- The pathogenesis of mucoid degeneration is unclear, but injury, ganglion cysts, and degenerative process have been implicated as the most likely etiologic factors.
- The most common and consistent symptom is knee pain.
- It affects middle-aged patients, between 35 and 52 years old

The gold standard imaging for the diagnosis of MD of ACL is MRI

III defined ACL, an increased ligamentous girth, a normal orientation of the ligament and an increased signal intensity on all the sequences interspersed among visible intact ACL fibers “celery stalk” appearance.

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