

Giant anterior cruciate ligament lesion with destruction: operative management

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ABSTRACT

Objectives: We present a case report of an unusual giant lesion of anterior cruciate ligament (ACL) causing destruction and requiring reconstruction of ACL. A case report of a 32-year-old male patient presented to orthopedics outpatient clinic with 2 years history of right knee instability and clicking symptoms with no history of an obvious injury. Magnetic resonance imaging showed a giant lesion occupying all ACL structure in the knee with 30×15×15 mm dimensions. The patient had an arthroscopy and it showed destruction of ACL, which required ACL reconstruction in the same sitting. Biopsy results showed a chronic non-specific inflammatory synovial epithelial tissue with increased vascularity and thickened wall vessels.

Keywords: Anterior cruciate ligament (ACL) lesion, ACL reconstruction, ACL ganglion

Although the anterior cruciate ligament (ACL) lesions are rare, there have been some case reports and studies on ganglion cysts in the literature [1, 2-4]. The cysts are mostly managed conservatively or draining, however, it may very rarely require further management such as ACL reconstruction. The absence of ACL reconstruction as treatment option for these cases is probably due to its rarity. We would like to emphasize that in case of nonfunctional ACL due to its destruction, ACL reconstruction could be the choice of treatment.

CASE PRESENTATION

We present an unusual giant lesion of ACL causing destruction and requiring reconstruction of ACL. A 32-year-old male patient presented to orthopaedic outpatient clinic with 2 years history of

right knee instability and clicking symptoms with no history of an obvious injury.

The patient started to get a recent increase in pain even in rest and night time. The patient could not recall any trauma or incident before the change of symptoms and he did not describe any particular sport activities. The patient described a rather generalised knee pain than sharp pain without any swelling or sensation problem. His other symptoms were decreased flexion and difficulty in scouting. On examination, there was no effusion and no particular tenderness. Flexion of the knee decreased to 80 degree with pain. McMurray's test was negative and Lachman's test showed slight laxity comparing to contra-lateral side.

Magnetic resonance imaging showed a giant lesion occupying all ACL structure in the knee with 30×15×15 mm dimensions (Fig. 1). The patient had an arthroscopy and it showed destruction of ACL,

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Fig. 1. T2 sagittal, T1 sagittal MR scan views of knee and T2 axial view.

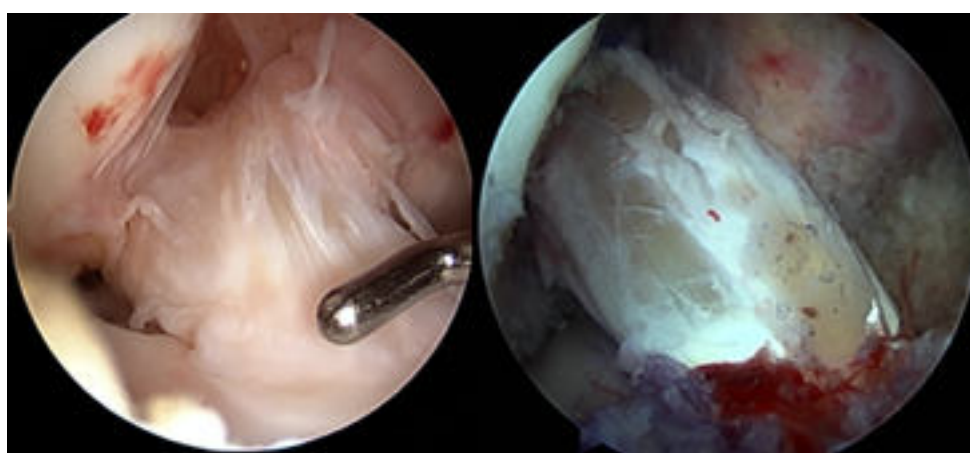


Fig. 2. Arthroscopic view preoperative and postoperative (ACL reconstruction).

which required ACL reconstruction in the same sitting (Fig. 2). Biopsy results showed a chronic non-specific inflammatory synovial epithelial tissue with increased vascularity and thickened wall vessels (Fig. 3).

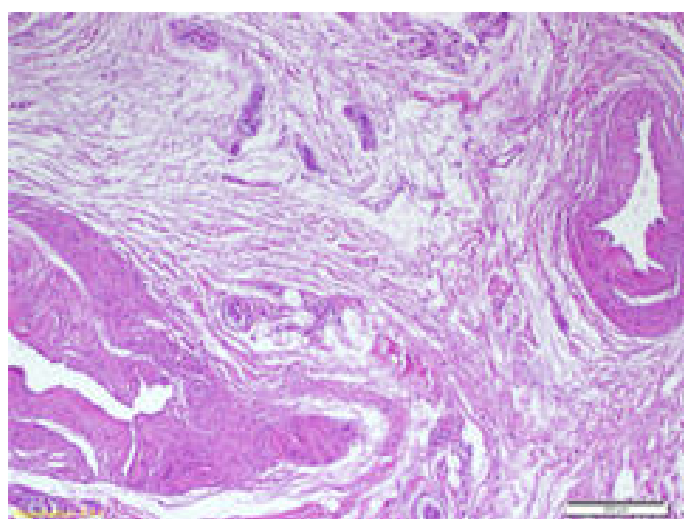


Fig. 3. Histopathology slide of the lesion.

DISCUSSION

Although the ACL lesions are rare, there have been some case reports and studies on ganglion cysts in the literature [1, 2-4]. The cyst are mostly managed conservatively or draining, however, it may very rarely require further management such as ACL reconstruction. Although biopsy results of our case showed increased vascularity with query of haemangioma, MR scan and arthroscopy findings confirmed ganglion cyst clinically. Synovial haemangiomas are also very rare intra-articular benign tumour, which may arise from any synovium-lined surface [5].

Ganglion cysts are common around the joints and particularly around wrist but those are less common around the knee and if so, mostly associated with capsule or meniscus. Rarely, they can be associated with ACL and there are few publications about it [1, 3, 6]. Patients may present with symptoms pain, swelling, decreased flexion with or without previous

injuries or they could be asymptomatic with incidental findings of radiological diagnostic images. Common clinical findings include tenderness on palpation, decreased range of motion, swelling and joint effusion [2, 3]. If the cyst is large enough, it may mechanically obstruct the knee during motion.

According to Plotkin *et al.* [3], if the cysts anterior to the ACL, they tend to limit extension, whilst the cysts posterior to the ACL may limit flexion. Even for symptomatic patients, history and physical exam alone are not enough to make the diagnosis. Magnetic resonance imaging is the choice of investigation for further evaluation and diagnosis [2, 3].

The irritation or trauma to the synovium covering the ACL may initiate the release of hyaluronic acid and the production of mucin, which may lead to ganglion formation. Cysts associated with the ACL tend to be fusiform and oriented parallel to its fibres [3]. For the management of ACL cysts, there are few options described in the literature such as functional treatment, computed tomographic scan or ultrasound-guided aspiration [2-4].

Surgical treatment includes arthroscopic excision or resection and debridement [4]. ACL reconstruction is not described in the literature as a treatment option, however, association with ACL tears was explained [3]. The absence of ACL reconstruction as treatment option for these cases is probably due to its rarity.

CONCLUSION

The lesion of our case was an ACL ganglion cyst clinically with additional comments of increased vascularity from histopathology. There may be a question arising from this case on what caused the destruction of ACL. Nevertheless, we would like to emphasise that in case of nonfunctional ACL due to its destruction, ACL reconstruction could be the choice of treatment.

Informed consent

Written informed consent was obtained from the patient for publication of this case report and any accompanying images.

Conflict of interest

The authors declared that there are no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Authors' contributions

All the authors had contributions to the case report. LB = collected the data and analysed and written up. AC and ACE = had contribution to the literature review and discussions. FB = had contribution to diagnostic features and interpretation of data. ME = was the main surgeon of the case, involved at all the stages. All the authors are conversant with the content and agreed with the final version.

REFERENCES

1. Sonnery-Cottet B, Guimarães TM, Daggett M, Pic JB, Kajetanek C, de Padua VB, et al. Anterior cruciate ligament ganglion cyst treated under computed tomography - Guided aspiration in a professional soccer player. *Orthop J Sports Med* 2016;4:2325967116644585.
2. Parish EN, Dixon P, Cross MJ. Ganglion cysts of the anterior cruciate ligament: a series of 15 cases. *Arthroscopy* 2005;21:445-7.
3. Plotkin B, Agarwal VK, Varma R. Ganglion cyst of the anterior cruciate ligament. *Radiol Case Rep* 2009;4:309.
4. Su Y, Bai L. [Diagnosis and treatment of anterior cruciate ligament cysts]. *Zhongguo Xiu Fu Chong Jian Wai Ke Za Zhi* 2011;25:650-2 [Article in Chinese]
5. Tzurbakis M, Mouzopoulos G, Morakis E, Nikolaras G, Georgilas I. Intra-articular knee haemangioma originating from the anterior cruciate ligament: a case report. *J Med Case Rep* 2008;2:254.
6. Drosos GI, Pozo JL. Large extrasynovial intracapsular ganglia of the knee: a report of 3 cases. *Arthroscopy* 2005;21:1362-5.



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