



Giant cell tumor of the tendon sheath arising from anterior cruciate ligament

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Introduction

Giant cell tumor of the tendon sheath usually occurs in the tendon sheath of the hand, fibrous tissue surrounding the joints, mucosal bursa, but rarely in those of the knee. Tenosynovial GCT are rarely intra-articular.

We describe a case of an intra-articular localized Tenosynovial giant cell tumor arising from the anterior cruciate ligament (ACL) in a 30-year female who presented with pain and recurrent swelling of her left knee without prior history of a trauma.

Materials and methods

The case involves a 30 years old female patient. She presented with sudden onset of recurrent left knee swelling for 18 months without any history of preceding trauma. Tests for internal derangement of the left knee yielded negative finding. MRI however was reported as localized extra articular PVNS of left knee joint.

Arthrotomy surgery of the left knee was decided and it revealed a purple colour mass attached to the distal 2/3 of the lateral and posterior lateral of the ACL (Figs. 1–3).

Results

Histopathology revealed hyper cellular areas, composed of sheets of rounded or polygonal cells with a variable admixture of giant cells containing fat and rimmed hemosiderin pigments. It revealed a benign giant cell tumor of tendon sheath.

Discussions

The clinical presentation of localized PVNS depends on the location and the size of the swelling. The onset is typically subtle and the disease progression is slow. Swelling and mechanical symptoms such as locking and giving away sensation is one of the main symptoms.

Agarwala et al. reported a case of a patient which presented with

giving away and pain over the left knee without any history of trauma [3] Anterior, posterior, MacMurray test was all negative in their patient. Similarities can be also found in our patient as described.

MRI had been reported as the best to diagnose this tumor, however correlation with histopathology is also a must. On MRI, GCTTS appears as a heterogeneous mass in soft parts, with a low T1 and T2 signal which corresponds to the hemosiderin deposit [1].

Left knee arthrotomy via lateral approach was performed in our case. Another method that can be used is arthroscopic excision, however there is no standard treatment protocol but excision with or without radiotherapy is the treatment option.

In a study done by Lee et al. they described a case of a giant cell tumour which was diagnosed by magnetic resonance imaging and was resected via arthroscopically [2]. Their patient had no complaint following the procedure and it was reported that no recurrence at a 55-month follow-up.

Our patient underwent a second arthroscopic procedure of the knee 6 months after the first operative procedure and it was revealed that no new lesion has been seen at the previously excised lesion at the anterior cruciate ligament.

Sharma et al. described in their case report the occurrence rate in incomplete/subtotal arthroscopic synovectomy versus open synovectomy with anterior and posterior approach. Open synovectomy with anterior and posterior approach reportedly has a recurrence rate of 8–17% while arthroscopic synovectomy when it is incomplete/subtotal, the recurrence rates may be as high as 50–60% [4,5].

No further chemotherapy or radiotherapy and patient has been discharged from further follow-up thereafter as she was asymptomatic after the excision.

Conclusion

GCTTS is a rare tumor involving large joints especially in the knee. Diagnosis can be confirmed with MRI and excision of the tumor can be done via arthrotomy or via arthroscopy.

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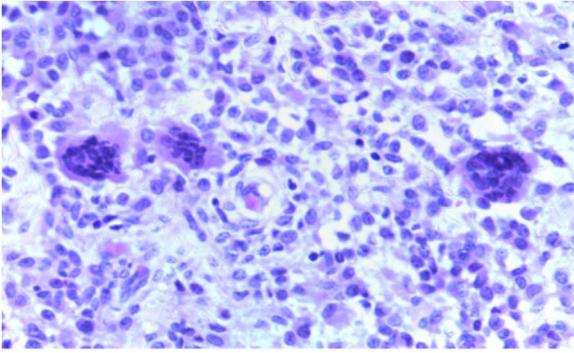


Fig. 1. Sections from the left knee intraarticular mass show hypercellular areas, composed of sheets of rounded or polygonal cells with a variable admixture of giant cells.



Fig. 2. Cut sections of the greyish yellow surface. (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)



Fig. 3. MRI of the left knee showing the lesion at the infra-patellar region.

References

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