

Synovial Cyst of the Proximal Tibio-Fibular Joint: A Rare Presentation

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Abstract

Synovial cyst of the knee joint is frequent in orthopaedics as a popliteal cyst also named Baker's cyst, however cystic masses rising from the proximal tibio-fibular joint (PTFJ) are very rare localisation.

We report a case of a 20 years old girl who was admitted in our institution for tumefaction on the proximal lateral side of his left leg associated to ipsilateral peroneal tunnel syndrome. The MRI displayed a classic image of the synovial cyst emerging from the proximal tibio-fibular joint compressing the common peroneal nerve. A total excision and decompression of the nerve in the peroneal tunnel were performed.

Postoperatively, tumefaction and the peroneal nerve compression symptoms disappeared.

Clinical outcomes after 5 years were normal excluding any recidivism of the synovial cyst.

Keywords: Synovial Cyst; Proximal Tibio-Fibular Joint; Peroneal Nerve

Introduction

Synovial cysts of the proximal tibiofibular joint are very rare localisation. We report a rare case associated with compressing syndrome of the common peroneal nerve in the peroneal tunnel.

Case Report

A 20-years-old girl admitted in our institution for chronic pain and tumefaction on the proximal lateral side of his left leg just below her knee. This masse increased progressively in volume and became slightly sensitive, renitent, measuring 3 cm long axis (Figure 1).

The neurological examination revealed a peroneal tunnel syndrome. X-rays of the knee and leg were normal. The biological assessment showed no inflammatory syndrome. The ultrasound showed a cystic formation of the soft tissues around the knee joint. MRI displayed a cystic formation of about 3 cm × 2 cm in the fibers of the peroneus longus muscle communicated to the PTFJ by a 10 mm long stalk along the fibular bone and compressing the common peroneal nerve below the fibular head (Figure 2).

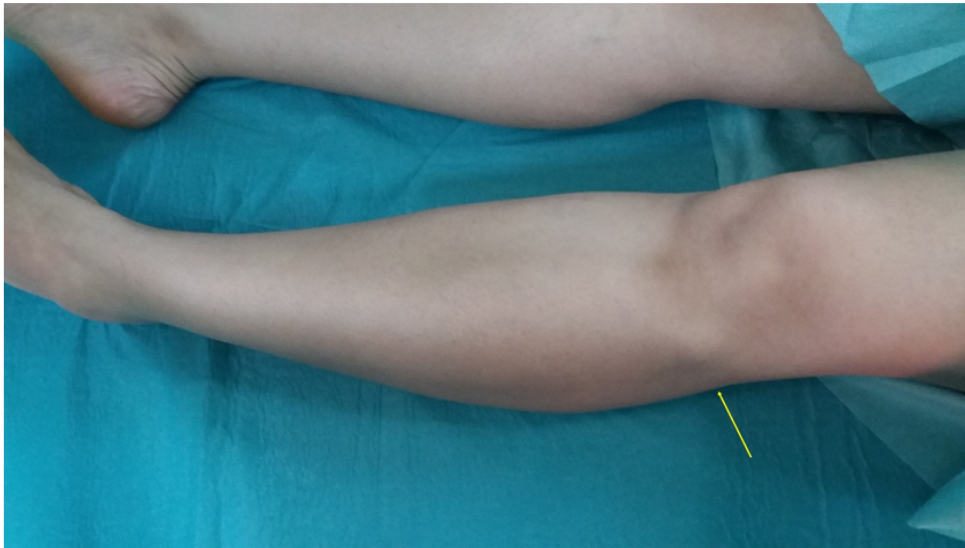


Figure 1: Clinical image of the tumefaction in the lateral side of the knee (yellow arrow).

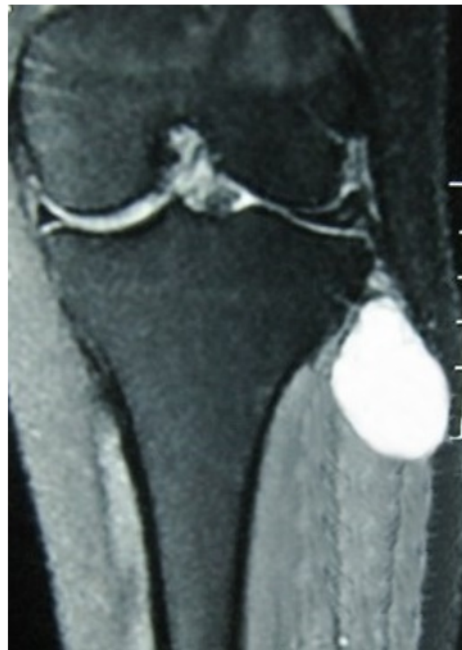


Figure 2: MRI showing the synovial cyst with increased signal intensity on T1-weighted image, its dimension and origin from the PTFJ.

The surgical excision of this synovial cyst was complete with its stalk and directed to the pathohistological examination that confirmed the cystic nature of the formation (Figure 3).

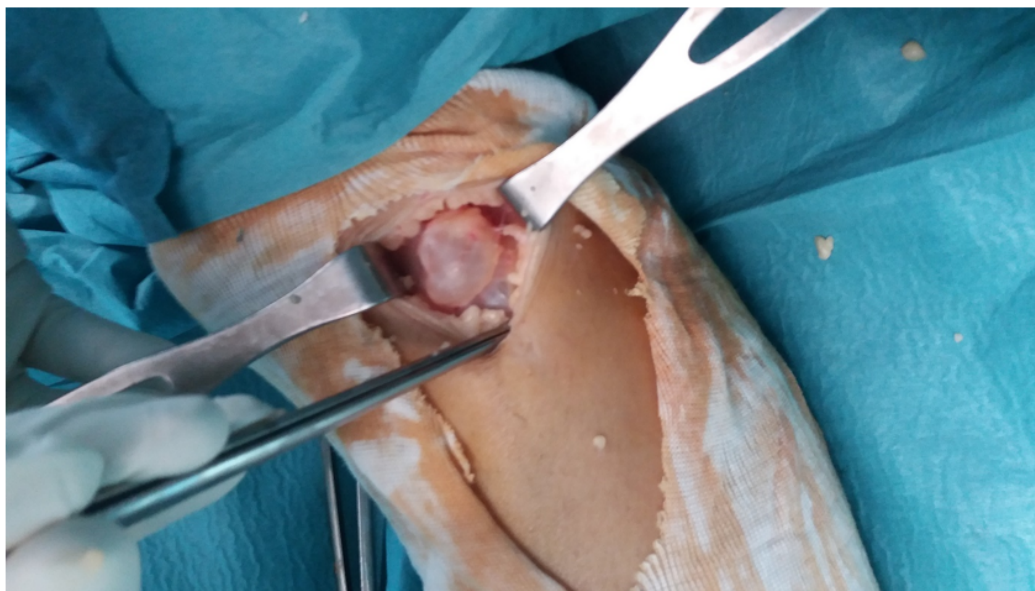


Figure 3: Operative view of the synovial cyst.

Postoperatively, functional result was good, tumefaction and peroneal nerve compression symptoms disappeared. after 4 years follow-up clinical examination was normal excluding any recidivism of the synovial cyst.

Discussion

The favored localization of synovial cysts around the knee is the popliteal region rising from the tibio-femoral joint, but rarely from the PTFJ, less than 70 cases have been described in the literature [1,2].

Synovial membrane of the PTFJ communicate with that of the tibio-femoral joint in only 10% of adults. In case of communication between the two joints the cavities are separated by only a thin layer of synovium [3].

The pathophysiology of the cyst formation is unclear [4]. A popular theory is the augment in intraarticular pressure, possibly due to synovitis or joint microinjury that causes an outpouching of the joint capsule forming the synovial cyst. A stalk was found between the synovial cyst and the joint in less than 50% of the cases [2].

The first alarming symptoms is the lateral side tumefaction of the knee followed by lower limb neurological signs, over 50% of PTFJ synovial cysts are associated with peroneal nerve palsy secondary to common peroneal nerve compression in the peroneal tunnel [5]. Symptoms started by pain at the anterolateral region of the leg and dorsal foot, followed by progressive feebleness of the peroneal muscles then complete peroneal nerve palsy with a foot drop, that was reported by many other authors [6].

Diagnosis may be difficult to discern clinically from other cyst-like lesions as a common peroneal nerve neuroma, cysts of the lateral meniscus, hydatid cyst and soft tissue tumors [7].

MRI allow a confident diagnosis, it demonstrates the cystic nature of the lesion showing an increased signal intensity on T1-weighted images, precise its dimensions and its communication between the PTFJ. A simple aspiration or incomplete surgical resection of the KS most often recidivate, of this fact the surgical excision must be as complete as possible to avoid the recurrences, including the ligation then section of the cystic stalk when this one could be identified [8].

We must follow-up patients regularly at minimum three years to eliminate any recurrence, because they are frequent after surgical resection rating less than 10% [9].

Conclusion

The synovial cysts of the PTFJ are exceptional and may pose a differential diagnosis problem. The clinical manifestations are according to their localization, they can cause either pain, tumefaction or neurological deficit of the common peroneal nerve. The best imaging technique for diagnosis and operative planning remains MRI.

A total extirpation of the synovial cyst and decompression of the peroneal nerve are the treatment of choice to avoid any recurrence.

Disclosure of Interest

The authors declare that they have no competing interest.

Consent

Patient gives informed consent for publication.

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Bibliography

1. Pecina HI., *et al.* "Double synovial cyst of the proximal tibiofibular joint confirmed by MRI as a cause of the peroneal tunnel syndrome". *Acta Chirurgiae Orthopaedicae et Traumatologiae Českoslovacica* 75.4 (2008): 301-305.
2. Mortazavi SM., *et al.* "Proximal tibiofibular joint synovial cyst-one pathology with three different presentations". *Knee Surgery, Sports Traumatology, Arthroscopy* 14.9 (2006): 875-879.
3. Resnick D., *et al.* "Proximal tibiogibular joint: anatomic-pathologic-radiographic correlation". *American Journal of Roentgenology* 131.1 (1978): 133-138.
4. Dirim B., *et al.* "Communication Between the Proximal Tibiofibular Joint and Knee via the Subpopliteal Recess: MR Arthrography with Histologic Correlation and Stratigraphic Dissection". *American Journal of Roentgenology* 191.2 (2008): 44-51.
5. Anderson C and Sogard I. "Peroneal paresis caused by a ganglion. Compression of the deep peroneal nerve caused by a ganglion cyst". *Ugeskrift for Laeger* 152.22 (1990): 1598.
6. Ward WG and Eckardt JJ. "Ganglion cyst of the proximal tibiofibular joint causing anterior compartment syndrome: a case report and anatomical study". *Journal of Bone and Joint Surgery: American Volume* 76.10 (1994): 1561-1564.
7. Eyres KS., *et al.* "Giant ganglion of the superior tibiofibular joint". *British Journal of Clinical Practice* 44 (1990): 704.

8. Kapoor V, *et al.* "Excision arthroplasty of superior tibiofibular joint for recurrent proximal tibiofibular cyst. A report of two cases". *Joint Bone Spine* 71.5 (2004): 427-429.
9. Bianchi S, *et al.* "Intramuscular ganglia arising from the superior tibiofibular joint: CT and MR evaluation". *Skeletal Radiology* 24.4 (1995): 253-256.

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