



Extraneural Ganglion Cyst of Proximal Tibio-Fibular Joint

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ABSTRACT

Ganglion cyst causing compressive neuropathy in upper limbs is a common phenomenon but it is extremely rare in lower limbs. We are presenting a case of middle aged man who presented to us with complaints of lower limb radiculopathy and neurological deficit which was initially wrongly diagnosed as a case of L4-L5 and L5-S1 disc prolapsed based on the MRI of the spine elsewhere. Thorough clinical examination revealed a cystic swelling on the lateral aspect of the right knee. MRI revealed it to be an extraneural ganglion cyst of proximal tibiofibular joint compressing the common peroneal nerve. Very few cases of extraneural ganglion cysts have been reported previously. This condition can easily be missed when there are other accompanying conditions like lumbar disc prolapse which can also cause similar symptoms. Early diagnosis and surgical decompression can prevent further progression of symptoms and can have a better outcome

KEYWORDS

Compressive Neuropathy in lower limb, Extraneural Ganglion Cyst

Case report

A 41-year-old gentleman, initially had presented in the Department of Neurology with history of radicular pain of right lower limb with tingling and reduced sensations over dorsum of foot of 3 months duration. In view of these symptoms neurologists advised magnetic resonance imaging of lumbar spine MRI spine showed L4-L5 and L5-S1 disc prolapse with no root compression. Attributing the symptoms to IVDP, the patient was advised rest, NSAIDs, tablet methylcobalmin and pregabalin in view of the clinical and MRI findings. His symptoms gradually worsened with increase in pain and weakness, following which he consulted us for a second opinion. Physical examination revealed a cystic swelling around fibular head. There was hypoesthesia over dorsum of the foot and weakness of dorsiflexion of great toe. Paraesthesia was provoked by tapping this swelling. Plain radiographs of right knee were normal. Ultrasound was suggestive of multiloculated cystic swelling arising from proximal tibiofibular joint (figure 1). MRI showed a multiloculated extraneural ganglion cyst of proximal tibiofibular joint compressing common peroneal nerve (figure 2). Nerve conduction studies showed right common peroneal nerve neuropraxia (sensory > motor). Schwannoma / ganglion cysts (intra and extraneural) were considered as differential diagnosis.

As the swelling appeared to be benign in nature on clinical examination and investigations, excision biopsy was planned. Through a lateral approach common peroneal nerve was explored and isolated. It was noted that the nerve was being compressed by the posterolateral aspect of the cyst. The cyst was excised along with the stalk and fenestration of the joint capsule was performed. The cyst measured 3x2x1.5cm and contained gelatinous material (figure 3). Histopathology report was consistent with ganglion cyst. Patient showed gradual recovery of sensations and motor power. At 1 year follow up there was complete recovery and there was no evidence of recurrence of the swelling.

DISCUSSION

Compressive neuropathies due to ganglion cysts are extremely rare in lower limbs, [1]. One of the sites for occurrence of ganglion cysts in lower limb is from the proximal tibio-fibular ganglion cyst [2]. The incidence of ganglion cyst of proximal tibiofibular joint is reported to be as low as 0.76%, [3]. In majority of the cases these cysts remain asymptomatic. Very rarely they can cause compression of common peroneal nerve.

Peroneal neuropathy caused by a ganglion cyst was first described by Sultan in 1921, [4]. These cysts can be intraneural or extraneural. Many cases of intraneural ganglion cysts causing compressive neuropathy of peroneal nerve have been reported but extraneural cysts are rarely encountered, [5]. Extraneural cysts are usually asymptomatic and rarely cause compressive neuropathy because these cysts cause extrinsic compression whereas intraneural cysts traverse within nerve sheath causing intrinsic compression and produce early symptoms. Extraneural cysts can present as claudication in the lower limb [5]

Extraneural cysts have better prognosis after surgical decompression compared to intraneural cysts, [6]. A very low incidence and variable presentation makes it a difficult condition to diagnose especially when there are more common accompanying conditions like lumbar disc prolapse which could also cause similar symptoms. Thorough clinical examination is very essential in such cases.

Ultrasound, MRI will define the cyst and nerve conduction studies can aid in the diagnosis. Surgical decompression is the treatment of choice, [7]. Recurrence is not uncommon. Intraneural cysts are known for recurrences. Recurrence can be prevented by ligation of the pedicle and articular branch of peroneal nerve in case of intraneural cysts, and by resection of stalk of cyst and fenestration of joint in case of extraneural cysts, [8]. Early diagnosis and decompression carries a better outcome.

CONCLUSION:

- Ganglion cysts of proximal tibiofibular cysts are extremely rare and have variable presentation, thus present as a diagnostic challenge. High index of clinical suspicion and thorough clinical examination help in the diagnosis. Early surgical decompression has better outcome.

Figures

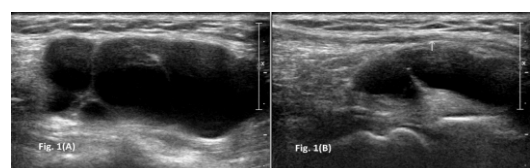


Figure 1: Ultrasound images. 1(a) Multiloculated ganglion cyst, 1(b) Pointer showing common peroneal nerve compressed by ganglion cyst.

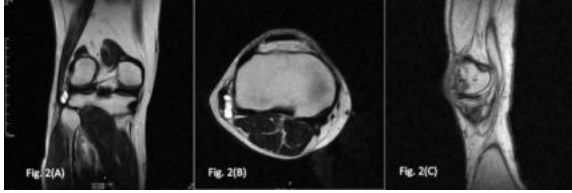


Figure 2: MRI images. 2(a) Coronal image showing cyst in close proximity to fibular head, 2(b) Axial image showing the cyst originating from proximal tibiofibular joint, 2(c) Sagittal image showing the cyst in close proximity to common peroneal nerve.

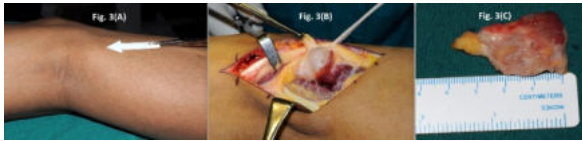


Figure 3: Clinical photographs. 3(a) Pointer showing swelling over fibular head, 3(b) Intra-operative photograph showing ganglion cyst and common peroneal nerve, 3(c) Ganglion cyst after excision.



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