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Case Series Of Acute Unilateral Foot Drop Due To Ganglionic Cyst.

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ABSTRACT

Foot drop caused by Common Peroneal nerve compression is a common condition caused by variety of aetiology. Space occupying lesions like Ganglions can also cause foot drop. However Intra neural Ganglionic cysts causing compression of Common Peroneal nerve are more common while Extra neural Ganglionic cysts causing Foot Drop are very rare. Here we report 2 rare cases of compressive common peroneal neuropathy by an extra neural ganglion cyst. The current study presents 2 cases of women in the age group 40 – 50 years, presenting with similar features of Foot Drop. Both the patients had Foot drop caused by Common peroneal nerve compression by Extra neural Ganglionic cyst and required a staged surgical procedure which included Exploration & Lysis of Nerve followed by Tendon transfer procedure, both the patients had improved sensation followed by improvement in muscle power. Accurate diagnosis and early treatment in the form of staged surgical procedure are important in cases of compressive common peroneal neuropathy caused by an Extraneural Ganglionic cyst.

Keywords: Foot Drop, Extra neural Ganglionic Cyst, Common Peroneal Neuropathy.

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INTRODUCTION

Foot drop is a clinical condition where in the affected person is unable to lift the forefoot caused by the weakness of the dorsiflexors of the foot. This inability can result in dragging of the foot and unsafe gait which may lead to falls. The Common Peroneal Nerve is one of the two terminal branches of Sciatic Nerve, which in turn is the largest branch of the Lumbosacral plexus [1]. Through its superficial & Deep branches the Common peroneal nerve supplies the main evertors of the foot. Foot drop can be caused due to multiple etiologies – Compressive disorders due to entrapment or compression of the nerve anywhere along its course, Anatomic variation of Biceps femoris muscle, Space occupying lesions, bone metastasis can also cause compression of the Nerve leading to Foot Drop [2]. Traumatic injuries like fractures, dislocations, Neurologic disorders like Motor Neuron Disease, Amyotrophic Lateral Sclerosis, Cerebro Vascular Accidents, Mononeuritis Multiplex are other disorders which can cause Foot Drop. The common peroneal nerve is the most frequently involved nerve, although cysts at the ulnar, sciatic, and tibial nerves have also been reported [3]. Here we have discussed 2 cases of Unilateral Foot Drop caused by Ganglionic Cyst presenting with similar Clinical features.

Case Report 1

A 37 Years old female, A Home maker residing at Kanchipuram district came to OPD with complaints of difficulty in walking past 15 days duration. H/O diminished sensation over the left leg present. Recently diagnosed Diabetes Mellitus on treatment with Metformin & Glimipride . Patient underwent Treatment with neurologist and advised medication for 10 days.

Clinical Pearls

- Toes and ankle in plantar position
- No hypopigmented patches noted
- High stepping gait noted
- Toes and ankle extension not possible
- No nerve thickening
- No swelling noted
- Sensation decreased
- At the left ankle, dorsiflexion was grade 0/5 while plantar flexion was grade 5/5
- Extensor hallucis longus contraction was grade 1/5
- Power at other joints and in rest of muscle groups was normal
-



Figure 1: Left Side patient showing Foot drop Right Side: Same Patient showing recovery post operatively

Investigations

MRI LS SPINE- Shows early lumbar spondylosis L4L5 & L5S1 disc herniation for that neurosurgeon opinion obtained and conservative management planned

Nerve Conduction Study

Left Peroneal nerve motor axonopathy suggestive of severe nerve injury.

Prognosis for spontaneous recovery is poor

Management Staged Procedure

I Stage: exploration & Lysis of Deep peroneal nerve

II Stage: Tendon transfer procedure

Exploration and Neurolysis planned and procedure done under spinal anesthesia.

Incision made after marking Fibular head and neck.

Neuro vascular bundle meticulously identified

Surprisingly soft tissue lesion (cystic swelling) noted and compressing the nerve

Excision done



Figure 2: Intraoperative Picture showing Ganglionic cyst

Excision Biopsy Report

Ganglionic cyst

Post Operative Follow Up

After the staged surgical management, patient was on Foot Drop Splint for 3 weeks. Sensation improved in 3 weeks and after a period of 6 months dorsiflexion improved to Grade 4/5.

Case Report 2

47-year-old Female, presented to OPD with c/o swelling in Right Leg for the past 2 months

Clinical Pearls

- Toes and ankle in plantar position
- No hypo pigmented patches noted
- High stepping gait noted
- Toes and ankle extension not possible
- No nerve thickening
- Swelling noted - 5 x 5 cm noted in the outer lateral aspect of Right Knee joint.
- Sensation decreased
- At the Right ankle, dorsiflexion was grade 0/5 while plantar flexion was grade 5/5
- Power at other joints and in rest of muscle groups was normal



Figure 3: Left Side: Visible Swelling On The Right Knee Joint, Right Side: MRI Knee Joint Showing Ganglionic Cyst

Investigations

MRI Right Knee Joint: A well-defined lesion along the course of the Common Fibular nerve measuring 3.5 x 2.0 cm, lesion is hyper intense – Likely Cystic Schwannoma.

Management Staged Procedure

I Stage: exploration & Lysis of Deep peroneal nerve

II Stage: Tendon transfer procedure

Exploration and Neurolysis planned and procedure done under spinal anesthesia.

Incision made after marking Fibular head and neck.

Neuro vascular bundle meticulously identified

Surprisingly soft tissue lesion (cystic swelling) noted and compressing the nerve

Excision done

Excision Biopsy Report

Ganglionic cyst

Post Operative Follow Up

After the staged surgical management, patient was on Foot Drop Splint for 3 weeks. Sensation improved in 3 weeks and after a period of 6 months dorsiflexion improved to Grade 5/5.

DISCUSSION

The Common Peroneal Nerve is the most commonly injured nerve in the lower part of the body. The Common Peroneal Nerve can be injured at any location along the thigh to the fibular head region by various types of traumas, including bullet wounds, lacerations, and femur fractures, or by compression secondary to habitual leg crossing, precipitous weight loss, or maintaining the squatting position for extended periods of time [4,5]. Secondary causes also include space-occupying lesions such as ganglia, cysts, and vascular abnormalities [3,6].

Ganglionic cysts are soft tissue masses caused by the myxoid degeneration of the connective tissue at the joint capsules and tendon sheaths [7]. These show up as hyperintense regions on T2-weighted MRI images. In pathologic findings, the walls are composed of bland fibrous tissue without a specialized lining. These can be classified as either intraneural or extraneural lesions [8]. Most of the ganglionic cysts described in the literature causing peroneal nerve compression have been of the intraneural type [9, 10]. Nerve compression by extraneural ganglion cysts is rare. Though Aspiration of the cyst was effective to allow immediate decompression of the CPN, but the effect was temporary and did not prevent reoccurrence of the cyst. Foot drop caused by Ganglionic cyst compressing common Peroneal Nerve is rare. Wong Hon et al [5] study reported A 46-year-old man was hospitalized after he reported a right foot drop for 1 month. Manual muscle testing revealed scores of 1/5 on dorsiflexion of the right ankle similar to our study. Four weeks after the operation, the strength of the muscles innervated by the CPN improved to grade 4/5, and the patient could walk safely.

Here we present 2 cases of women in the age group 40 – 50 years, presenting with similar features of Foot Drop. Both the patients required a staged surgical procedure which included Exploration & Lysis of Nerve followed by Tendon transfer procedure, both the patients had improved sensation followed by improvement in muscle power.

CONCLUSION

Foot drop caused by compression of Common Peroneal Nerve compression caused by Extranural ganglionic cyst is extremely rare as compared to Intra neural Ganglionic cyst. Aspiration of the cyst is a temporary management because recurrence is common, hence a staged surgical procedure like in the current study helps to improve the sensation as well as power of the muscle and easy recovery of the patient. Early diagnosis and Management in case of Foot drop due to Extra neural Ganglionic Cyst is needed for early recovery of the patient.

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