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Case Report

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A Case of Peroneal Tendon Subluxation following Trivial Ankle Injury and Review of the Literature

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Abstract

Subluxation or dislocation of the peroneal tendon is uncommon ankle disorder and most of the time misdiagnosed as ankle sprain. Young adults and adolescents who are active on sports activities are more prone to get this problem. The main cause of this disorder is because of the superior peroneal retinaculum avulsion from its insertion with fibular bone. We report a case of peroneal subluxation in a 19-year-old girl after twisting of the ankle one year back. She was initially treated with ankle splintage, rest and analgesics but her problem did not improve. Magnetic resonance imaging (MRI) of the ankle showed subluxation of the peroneal tendon and managed operatively. One year after the operation she is having pain-free ankle without any difficulties for walking.

Keywords: Ankle, Peroneal tendon, Superior peroneal retinaculum, Peroneal tendon subluxation.

INTRODUCTION

Peroneal tendons dislocation or subluxation from the lateral malleolus is an uncommon condition [1]. This is supposed to happen because of the rupture of the superior peroneal retinaculum and may be linked with the lateral malleolar fractures or shallow groove of the peroneal insertion surface on the inferior part of lateral malleolar [2]. The eversion of the foot with sudden forceful dorsiflexion plus powerful contraction of the peroneal muscles causes the disruption of the superior peroneal retinaculum allowing the anterior dislocation and snapping of the tendons [3]. On examination, the tender point may be elicited and a clearly palpable dislocation or subluxation could be noticed and patient could be apprehensive on eliciting the dislocation/subluxation due to pain on fresh injury [4]. This disorder is usually mistaken or undiagnosed because of the similarity of the injury of ankle sprain without abnormal findings on plain radiographs [5]. Generally, these injuries are treated with rest, analgesics, and simple splintage regarding simple ankle strain [6]. Most of these acute injuries are initially misdiagnosed leading to become chronic problems [7].

We encountered a subluxation of the peroneal tendon of left ankle in a 19 years old girl who was managed with peroneal groove deepening and retinacular ligament repairing.

CASE REPORT

A 19-year-old girl visited the Orthopaedic clinic with pain on her left ankle since one year. She twisted her ankle one year back and visited local clinic. Radiograph at that time showed no bony abnormalities and she was treated with an ankle splint with analgesics. Her pain subsided for a few months, but symptoms did not resolve completely. She was having discomfort in her left ankle while walking brisk and running with increase in pain intensity. She started to feel a cord like structure shifting anteriorly with clicking sound on the lateral aspect of the ankle for the past few months.

On examination, the tenderness was present on the lateral malleolar region around the anterior talofibular ligament, but more discomfort was complained by the patient around the peroneal tendon area and

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posterior aspect of the lateral malleolus region. No abnormality was noticed on the range of motion (ROM) of the ankle joint which was also stable on manual testing with intact distal neurovascular status. Another examination was performed by flexing the knee joint to 90° with prone position and stressing the ankle. This examination revealed the dislocation of the peroneal tendon. Patient also felt severe pain while performing this test. Clear swelling was also seen on the posterior region of the lateral malleolus. X-ray of the ankle was also repeated which showed no bony abnormalities. MRI of the ankle joint was performed which revealed the tear of the superior retinaculum of the peroneal from the posterior region of the lateral malleolus.

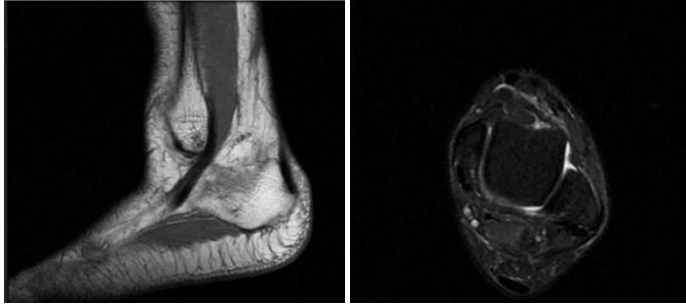


Figure 1: (a), (b)- Axial and sagittal plane of MRI of the ankle showing peroneal tendon subluxation.

Patient was explained the need of surgery for this problem. Under spinal anaesthesia, deepening of the fibular groove operation was performed. After operation, below knee plaster cast was applied for six weeks with non-weight bearing crutch walk. After removing the plaster on 6th week, ankle range of motion (ROM) was started and slowly partial weight bearing to full weight bearing walk was also started under the supervision of a qualified physiotherapist.

At one-year follow-up after surgery, the patient had completely recovered. She was walking normally and she had no pain, swelling on her ankle. No tenderness was palpable along the course of peroneal tendon and lateral malleolus. No swelling was also visible.



Figure 2: (a), (b)- Intraoperative photographs of fibular groove deepening surgery.



Figure 3: Clinical picture of the patient after one year of the operation

DISCUSSION

In the literature, the first description of the subluxation or dislocation of the peroneal tendons was by Monteggia in 1803 and which was in a ballet dancer [8]. But other authors have reported this disorder on skiing, soccer and basketball like sports events [9].

Pathological disorders of the peroneal tendons are one of the under-diagnosed cause of ankle problems which is very difficult to differentiate from commonly encountered ligament injuries of the lateral side of ankle [10]. In subluxation and dislocation of the peroneal tendons, the patient usually had a history of ankle injury in the past which may have been treated as a simple ankle sprain. But the unstable ankle is generally related with popping or snapping which is another common characteristic of subluxation occurring anteriorly over the distal fibula during ambulation [11]. Dombek et al reported only 60% of all 40 kinds of peroneal tendon ailments which were correctly detected at the primary clinical assessment [12]. Safran MR et al described an examination technique for the peroneal tendon subluxation [13]. We used the same technique to examine the patient and it was reproducible. This examination technique has been quoted by other authors as well in their report [14, 15].

Conservative treatment can be attempted for acute subluxation or dislocation but chronic and recurrent dislocation or subluxation should be managed surgically [11].

Different surgical methods have been reported in the literature, but till now there are no consensus for particular surgical technique. The basic surgical technique are: (i) anatomical reattachment of the retinaculum; (ii) bone-block procedures; (iii) reinforcement of the superior peroneal retinaculum with local tissue transfers; (iv) rerouting the tendons behind the calcaneofibular ligament; and (v) groove deepening procedures[9]. We performed the fibular groove deepening procedure for this case and the outcome was excellent. There are case reports recommending the use of this surgical technique and also with slight modification of the technique favoring excellent results[14, 16, 17].

CONCLUSION

Peroneal tendon subluxation is one of the rare disorders of ankle which is easily misdiagnosed during early stage. Surgical intervention needed is needed for chronic stage and fibular groove deepening is an appropriate surgical method which gives excellent result.

Conflicts of interest

The authors declare no conflicts of interest.

Source of funding

None.

Authors' contributions

SK Shrestha and TR Bhatta were involved in treatment of the patient. P Devkota prepared the manuscript and BK Acharya edited the manuscript. All authors read and gave their suggestion and approved the final version of the manuscript.

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