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Case Report

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Atraumatic Os Peroneum Fracture and Retraction of Peroneus Longus Tendon – Case Report and Review of Literature



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ABSTRACT

Background: Spontaneous fracture of os peroneum with proximal retraction of peroneus longus tendon is a rare problem and the possibility of delayed or missed diagnosis arises. If left untreated it can be a cause of chronic lateral hindfoot pain. **Case Report:** This paper reports a 41 years old lady with 4 years history of lateral foot pain. Ultrasound and magnetic resonance imaging (MRI) revealed tendinitis of peroneus longus tendon (PLT) and she was treated with steroid injection. She presented to us with new pain over the lateral ankle. During surgery, fracture of os peroneum with retraction of PLT to level of lateral malleolus was found. The diseased tendon along with fractured fragment were excised and tenodesis with peroneus brevis was performed. Patient showed good symptomatic recovery. **Conclusion:** We aim to share our successful experience of surgical management of atraumatic os peroneum fracture which was retracted up to level of lateral malleolus. Fragmentation of os peroneum leading to fracture is not mentioned in literature, although there are very few reported cases of post traumatic os peroneum fractures. In patients with os peroneum syndrome with representation and remote symptoms, a high degree of suspicion should be considered for os peroneum fracture and proximal migration of fractured fragment.

INTRODUCTION

Atraumatic fractures of os peroneum and retraction of peroneus longus tendon (PLT) is rare. PLT contributes to eversion and plantar flexion of the foot. It originates from proximal tibia and fibula and intermuscular septum then it travels within the posterior fibular groove, passes under peroneal tubercle of calcaneum and after reflecting against cuboid it inserts medially at the base of 1st metatarsal (1). An os peroneum is a small accessory bone, located close to cuboid and within the substance of PLT as it arches around the cuboid. It is a very anatomical variant, seen in up to 26% of feet(2). Like most accessory ossicles, os peroneum detected incidentally on imaging. Osperoneum can be bipartite or multipartite and can be a rare source of lateral foot and ankle pain (2). Spontaneous fractures of os peroneum (2,3) with proximal retraction of peroneus longus tendon is a rare problem with possibility of delayed or missed diagnosis.

CASE REPORT

We report a case of 41 years old lady who has been having conservative treatment for right lateral foot pain for 4 years. She is normally fit and well with no comorbidities. She had history of atraumatic right lateral foot pain and was diagnosed as os peroneum syndrome on ultrasound scan. Her initial MR scan showed Osperoneum syndrome with peroneus longus tendinopathy. She had two courses of ultrasound guided steroid injections which gave her relief from symptoms. Patient was represented to us with new symptoms. This time her pain was moreover the lateral aspect of ankle and not over os peroneum. Her MR scan showed peroneus longus tendon moderately tendinopathic and full thickness peroneal tendon tear retracted to level of lateral malleolus (Figure 1). There was a palpable lump above the level of lateral malleolus, behind fibula (Figure 2).

Surgery: Curved lateral incision was given along the course of peroneal brevis. Fracture of Osperoneum and complete rupture of PLT was identified and retracted proximal to lateral malleolus (Figure 3). The fractured fragment was excised along with tendinopathic tendon and tenodesis was done with peroneal brevis (Figure 4). Patient was discharged same day and kept nonweight bearing in cast for 6 weeks. At six weeks she was started full weight bearing in a boot for two weeks and physiotherapy was started to improve range of motion and strength. She showed good progress in range of motion and complete symptomatic recovery.

DISCUSSION

Low incidence and non-specific symptoms make a diagnostic challenge to diagnose PLT pathologies (4). In a patient with posterolateral hindfoot pain peroneal tendon pathology should be considered. Painful os peroneum syndrome (5) is mentioned in literature with spectrum of conditions including os peroneum fracture leading to diastasis of PLT tendon, stenosing peroneal tendon synovitis, partial rupture of PLT and frank rupture of PLT. PLT dysfunction may be acute or chronic. Acute dysfunction can occur as a result of PLT rupture at the time of the injury. Chronic dysfunction is related to degeneration and tearing associated with frictional forces along the tendon. Nonoperative measures include casting, dressing and steroid injections.

Surgical excision of fracture fragments with repair of associated peroneal longus tendon abnormalities is recommended in the acute setting or if conservative treatment fails (6).

Spontaneous fracture of os peroneum is rarely mentioned in literature. Peacock in 1986 (7) reported post traumatic case of osperoneum fracture in which primary repair and surgical approximation of the fractured os peroneum was performed. Jari et al (3) mentioned a case report of PLT rupture with osperoneum fracture while playing squash and was managed with surgical repair. Peterson et al (2) reported a case report in which osperoneum fracture was noted surgically and excision of osperoneum fragment and repair of PLT tendon was performed. Koh et al (8) reported post traumatic case of lateral ankle pain with rupture of PLT distal to os peroneum. Favinger et al (9) reported an os peroneum fracture after multiple eversion injuries leading to progressive retraction of os peroneum and PLT which was managed conservatively in the presence of multiple comorbidities.

Our patient was initially treated conservatively as tendinopathy of peroneal longus. She did not have any history of trauma to her ankle. On her recent MR scan, retraction of os peroneum was noted which was confirmed per operatively as retraction of fractured fragment up to the level of lateral malleolus. Fragmentation of os peroneum is the possible explanation of fractured os peroneum. Osperoneum syndrome may lead to fragmentation and fracture leading to proximal migration of PLT. In patients with os peroneum syndrome with representation and remote symptoms, a high degree of suspicion should be considered for os peroneum fracture and proximal migration of fractured fragment. This paper demonstrates

how a rare case of PLT rupture and os peroneum fracture was managed with tenodesis to intact peroneal brevis tendon leading to successful outcome.

CONFLICT OF INTEREST

1. No benefits in any form have been received or will be received from a commercial party related directly or indirectly to the subject of this article.
2. The author(s) received no financial support for the research, authorship, and/or publication of this article.

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Figure No. 1: Sagittal MR scan of ankle showing proximal retraction of os peroneum and peroneal longus tendon.



Figure No. 2: Lateral ankle showing the lateral malleolus and 5th metatarsal tuberosity. Arrow is pointing at retracted fragment of os peroneum.

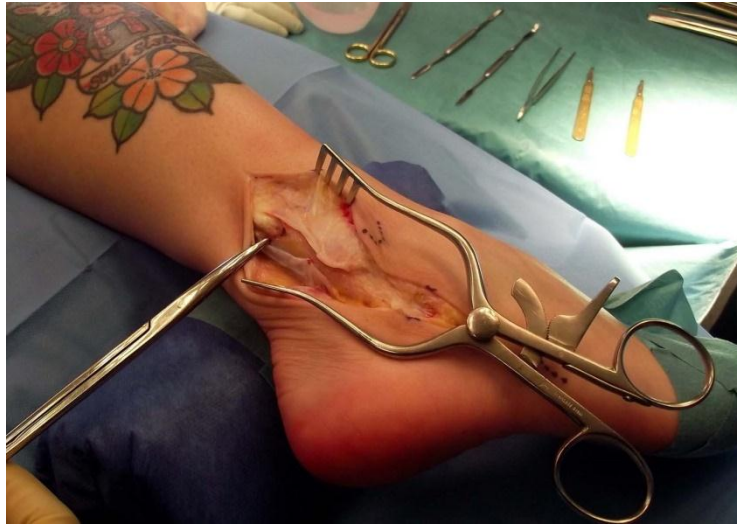


Figure No. 3: Showing PLT with retracted end of os peroneum



Figure No. 4: Tenodesis of peroneus longus tendon with peroneus brevis after excision of diseased tendon.