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AUTHORS: Osman CIVAN

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Extensor Hallucis Brevis Entrapment by a Lobulated Ganglion Cyst

Ekstansör Hallusis Brevis'in Lobüle Bir Ganglion Kisti Tarafından Tuzaklanması

Osman CİVAN

Akdeniz University Faculty of Medicine, Department of Orthopedics and Traumatology, Antalya, Turkey

Correspondence Address
Yazışma Adresi

Osman CİVAN

Akdeniz University Faculty
of Medicine, Department of
Orthopedics and Traumatology,
Antalya, Turkey

E-mail: civanosman@gmail.com

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Osman CİVAN
ORCID ID: 0000-0003-0216-1169

ABSTRACT

Ganglion cysts are common soft tissue lesions of the foot. They can cause symptoms like pain, tenderness, numbness and cosmetic problems, which depend on the location of the cyst. Treatment of ganglion cysts, both on the hand and the foot, varies from conservative to operative. In our case report, we wanted to describe a new entrapment caused by a dorsal foot ganglion cyst: Extensor Hallucis Brevis muscle-tendon junction entrapment.

Keywords: Ganglion Cyst, Foot, Extensor Hallucis Brevis, Entrapment

ÖZ

Ganglion kistleri ayağın sık görülen yumuşak doku lezyonlarından. Kistin yerine göre ağrı, hassasiyet, uyuşma ve kozmetik sorunlara neden olabilirler. Hem elde hem de ayakta görülen ganglion kistlerinin tedavisi konservatiften cerrahiye değişiklik gösterebilir. Biz de bu olgu sunumumuzda ayak dorsalindeki bir ganglion kistinin sebep olduğu bir tuzaklanmayı tarif etmek istedik: Ekstansör Hallusis Brevis'in kas-tendon bileşkesinin tuzaklanması.

Anahtar Sözcükler: Ganglion Kisti, Ayak, Ekstansör Hallusis Brevis, Tuzaklanma

INTRODUCTION

Ganglion cysts are common soft tissue lesions of the foot (1). They are mucus-filled and usually seen around the joints and tendons. They can cause symptoms like pain, tenderness, numbness, and cosmetic problems, which depend on the location of the cyst (2,3). Treatment of the ganglion cyst, both on the hand and the foot, varies from conservative to operative. Various treatment modalities like observation, splints, and aspiration and injection can be used for the pain management. These treatment modalities have different success rates regarding the relapse of the cyst. Although the recurrence rate of the aspiration and injection protocol is very high, surgery cannot be preferred for all of the patients because of the complications and risk of increased morbidity.

Various cases of ganglion cysts have been described in the literature and nerve entrapment is one of the most common presentations (4-6). In our case report, we wanted to describe a new type of entrapment caused by a dorsal foot ganglion cyst: Extensor Hallucis Brevis (EHB) muscle-tendon junction entrapment. To our knowledge, this is the first case report describing hallux pain due to entrapment of the extensor hallucis brevis by a ganglion cyst.

CASE REPORT

In July 2018, a 28-year-old male police officer was operated for the ganglion cyst on the dorsal side of his foot. A vertical incision was made and the cyst taken out by another

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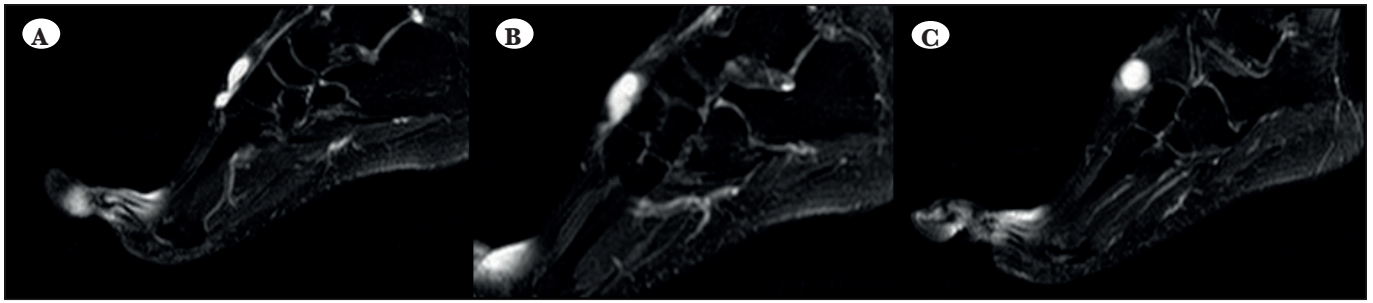


Figure 1: A,B,C The sagittal MRI views of the ganglion cyst.

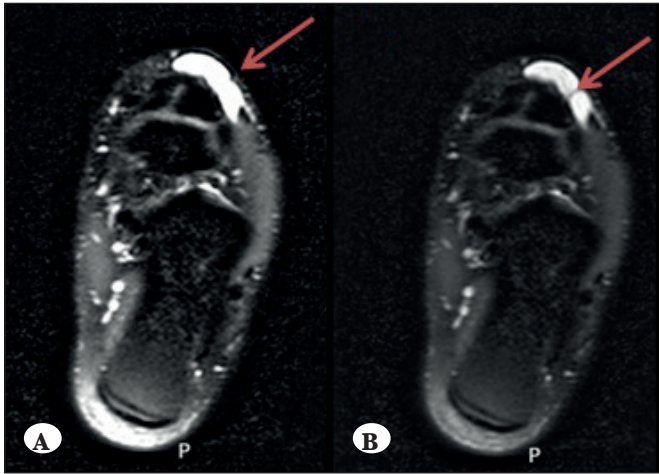


Figure 2: A,B Red arrow shows the lobular ganglion cyst in transverse MRI.

surgeon at the same center. The pathological diagnosis was as predicted preoperatively: ganglion cyst. After six months he had new symptom: pain with the motion of the hallucis. After nine months postoperatively, the proximal side of his first operation incision became swollen. The ultrasound and Magnetic Resonance Imaging (MRI) were repeated (Figure 1A-C, 2A-B). The diagnosis was the recurrence of the ganglion cyst. He was operated and the cyst excised from the surrounding soft tissue. In the operation field, it was understood that his pain on hallucis movement was related to the entrapment of EHB between the lobulations of the cyst (Figure 3A-C). It was stuck within the lobular cystic lesion as confirmed by moving the hallucis during the operation. The EHB was rescued from the entrapment (Figure 4A-C). After the operation, the pain on hallucis movement and the swelling around the tarsometatarsal joint healed rapidly.

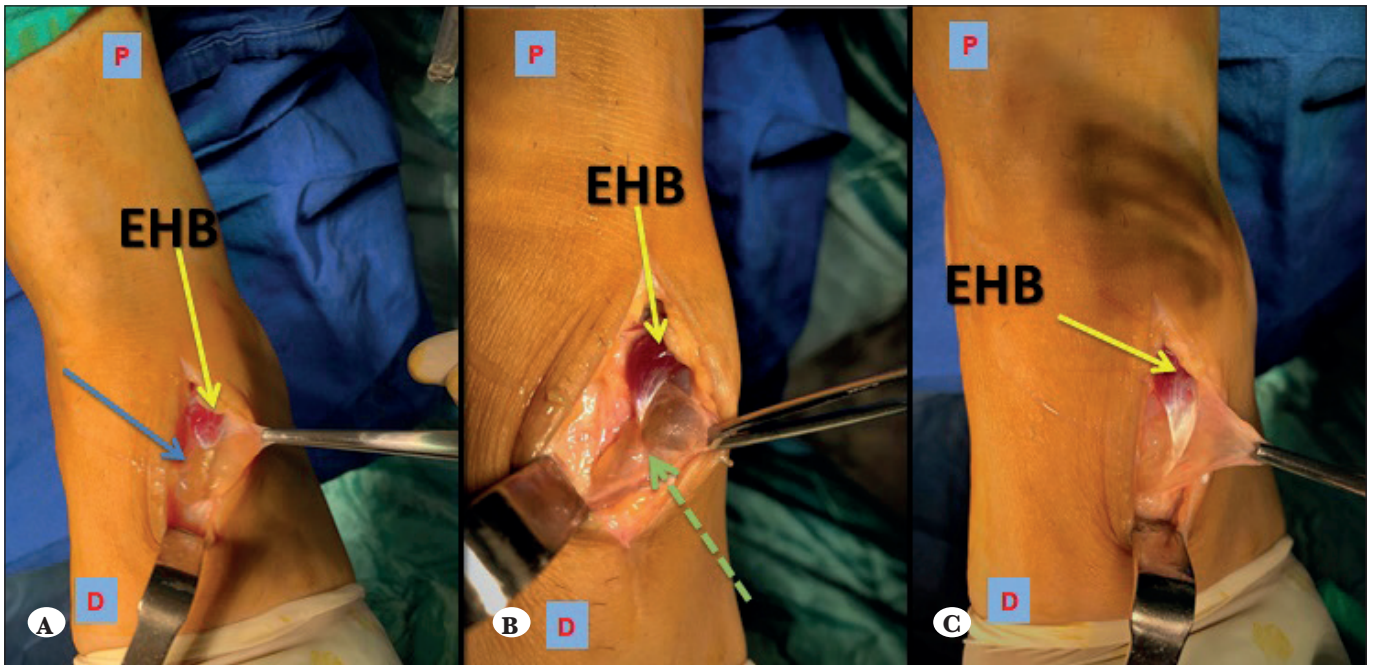


Figure 3: A) Yellow arrow shows EHB, blue arrow shows the ganglion cyst; B) Dashed green line shows the lobulation of the cyst entrapment point; C) Yellow arrow shows EHB, P: Proximal, D: Distal.

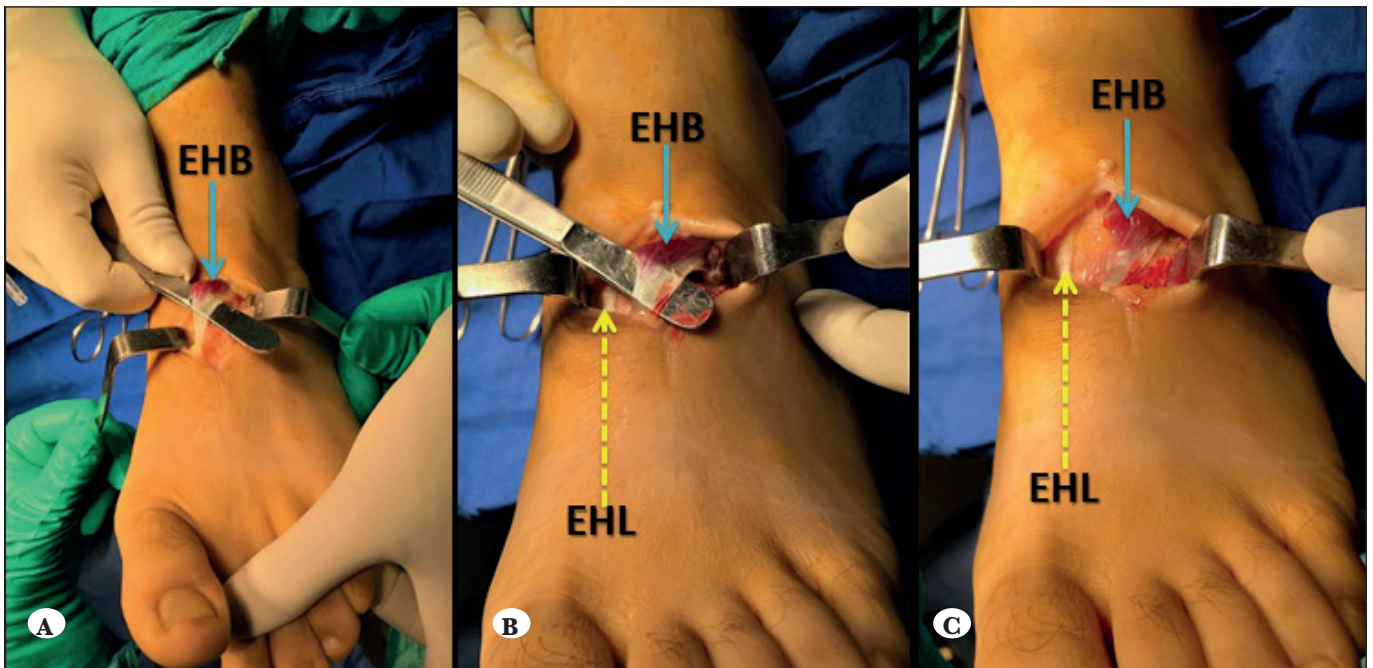


Figure 4: **A)** Checking the hallucis movement, the blue arrow shows EHB, **B)** Dashed yellow line shows EHL, **C)** Blue arrow shows EHB, dashed yellow line shows EHL, **EHL:** Extensor Hallucis Longus.

DISCUSSION

We did not come across any other report on the entrapment of the EHB tendon with a literature search. We believe that this is the only report on EHB entrapment by a ganglion cyst.

In the literature review, there were lots of cases and case reports about the nerve entrapment caused by a ganglion cyst (1,3-6). Most of the cases rapidly recovered, as in our case, after excising the ganglion cyst. The literature is mostly concerned about the entrapment neuropathy caused by a ganglion cyst but tendinopathy is usually overlooked. This case report will be a turning point for the preoperative and postoperative evaluation of ganglion cysts.

CONCLUSION

We have described a new entrapment caused by a ganglion cyst. This type of entrapment must be kept in mind for the correct evaluation of ganglion cysts intraoperatively and preoperatively.

Informed Consent: An informed consent was obtained from the patient.

Author Contributions: Operation, data collecting and writing was done by **O.C.**

Conflict of Interest: The author declares no conflict of interest.

Financial Disclosure: No funding.

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