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# Not Just An Ankle Sprain

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## History

49-year-old male with past medical history of hypertension who presents to the sports medicine clinic with a five-year history of left lateral foot pain. The pain is described as aching with intermittent stabbing in a constant nature. The pain is specifically located along the lateral and plantar foot that can radiate to the fourth and fifth toe. There is associated numbness in the same distribution. Pain is worse with walking and nothing alleviates the pain. He denies any specific trauma or injury to the foot. He thinks the pain may have been secondary to increased activity with racquetball. He had gone to multiple providers in the past for which all of them had diagnosed him with an ankle sprain for years. He has previously received a corticosteroid injection three years ago with minimal relief. He has also done a course of physical therapy without relief.

## Physical Exam

HT: 6' 4"  
Weight: 225 lbs  
BMI: 27.4  
BP: 115/75  
Pulse: 76

Normal gait  
Full ROM of bilateral feet  
Normal Thompson's test, calcaneal squeeze, metatarsal squeeze, anterior drawer, and talar tilt testing  
No swelling, erythema, or ecchymosis  
No muscle atrophy appreciated  
No tenderness to bony palpation  
Tenderness along the soft tissue near base of 5<sup>th</sup> metatarsal  
5/5 strength dorsiflexion, plantarflexion, eversion, inversion  
4/5 strength 4<sup>th</sup> and 5<sup>th</sup> toe flexion  
Distal sensation intact  
Negative Tinel's at the tarsal tunnel  
2+ DP/PT pulses



Figure 1. AP XR Foot

## Results Review

Initial imaging obtained at the first visit were x-rays of the foot. The final radiology report demonstrated a deformity of the medial navicular with linear lucency compatible with fracture of indeterminate age or possible os naviculare. Steida process and small plantar calcaneal spur. Mild soft tissue swelling about the lateral aspect of the 5<sup>th</sup> metatarsal without additional acute osseous injury.



Figure 2. Lateral XR foot

## Results Continued

Due to symptoms suggestive of neuropathic related pain, EMG was obtained which was normal. Due to non-revealing findings, MRI of the ankle was ordered, and the patient was referred to Neurology to assist in controlling the neuropathic pain. Initially, the patient decided not to obtain the MRI. Neurology suspected Baxter's neuropathy and recommended gabapentin. Medication did not alter the patient's symptoms, and the MRI was again advised. MRI demonstrated a ganglion cyst measuring 3.7 cm x 1.1 cm x 1.6 cm along the medial aspect of the calcaneus. The ganglion causes a mass effect on the neurovascular structures within the tarsal tunnel including tibial nerve. Edema and atrophy are seen within the adductor digiti minimi muscle consistent with chronic compression of the lateral branch of the tibial nerve.

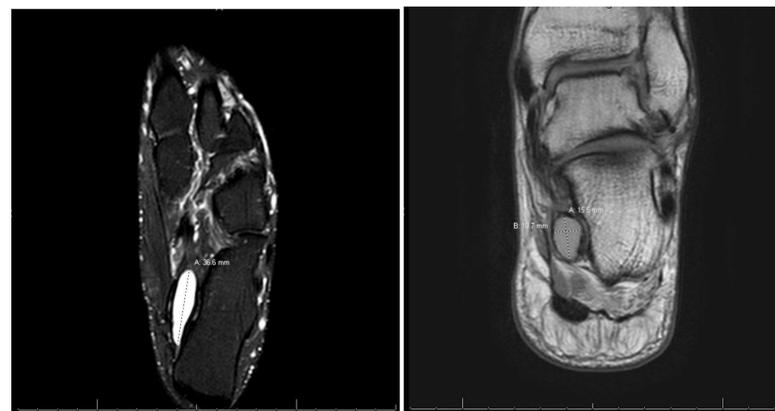


Figure 3. MRI foot

## Working Diagnosis

- Peripheral neuropathy
- Ganglion Cyst

## Discussion

Ganglion cysts are non-neoplastic cysts that are caused by an accumulation of thick mucinous fluid. This occurs within the epineurium of peripheral nerves, which is encased in a dense fibrous capsule. The most common presentation of this is local and/or radiating pain. Despite having radiating pain, numbness, and weakness, the initial EMG for evaluation was nonrevealing. Thus, an MRI was obtained demonstrating the ganglion cyst causing chronic compression of the tibial nerve.

Ganglion cysts causing damage to the tibial nerve on the medial side of the ankle are relatively uncommon. Ganglia are the cause of tarsal tunnel syndrome in up to 8% of cases (1). Surgical treatment is indicated if the symptoms are intractable and the diagnosis is well established. Outcomes post-surgically are more favorable when there is a short history of symptoms, the presence of a ganglion, no sprains, and light work (2).

## Management/Outcome

The patient was referred to orthopedic foot surgeon who performed a tarsal tunnel release and removal of the ganglion cyst.

The patient was pain free four days post op from surgery and has been pain free since the procedure. He has returned to normal activity without issue.

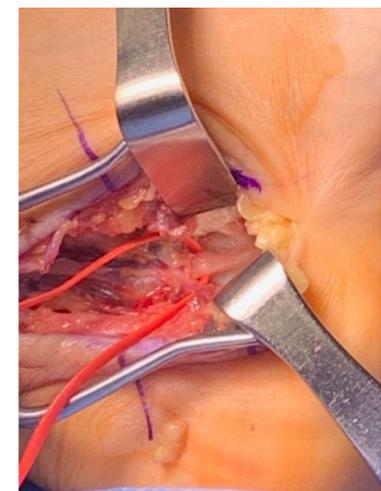


Figure 4. Intraoperative photo of ganglion cyst

## References

1. Antoniadis, et al. Posterior Tarsal Tunnel Syndrome. *Deutsches Arzteblatt International*. 2008 NOV; 105(45): 776-781.
2. Baba, et al. The Tarsal Tunnel Syndrome: Evaluation of Surgical Results Using Multivariate Analysis. *International Orthopaedics*. 1997 May; 21(2): 67-71.
3. Lui, Tun Hing. Endoscopic Resection of the Tarsal Tunnel Ganglion. *Arthroscopic Techniques*. 2016 Oct; 5(5): e1173-e1177.