

## Proximal Tibiofibular Joint Ganglion Cyst: A Rare Cause of Acute Foot Drop

*Proksimal Tibiofibular Eklem Ganglion Kisti: Akut Düşük Ayağın Nadir Bir Nedeni*

● **Bülent Alyanak<sup>1</sup>**, ● **Ümit Yalçın<sup>2</sup>**, ● **Aylin Ayyıldız<sup>2</sup>**, ● **Burak Tayyip Dede<sup>3</sup>**, ● **Mustafa Hüseyin Temel<sup>4</sup>**,  
● **Mustafa Turgut Yıldızgören<sup>5</sup>**, ● **Fatih Bağcıer<sup>2</sup>**

<sup>1</sup>Gölcük Necati Çelik State Hospital, Clinic of Physical Medicine and Rehabilitation, Kocaeli, Türkiye

<sup>2</sup>University of Health Sciences Türkiye, Başakşehir Çam and Sakura City Hospital, Department of Physical Medicine and Rehabilitation, İstanbul, Türkiye

<sup>3</sup>University of Health Sciences Türkiye, Prof. Dr. Cemil Taşcıoğlu City Hospital, Department of Physical Medicine and Rehabilitation, İstanbul, Türkiye

<sup>4</sup>Üsküdar State Hospital, Clinic of Physical Medicine and Rehabilitation, İstanbul, Türkiye

<sup>5</sup>Konya City Hospital, Clinic of Physical Medicine and Rehabilitation, Konya, Türkiye

### Dear Editor,

Foot drop is a debilitating condition resulting from weakness or paralysis of the dorsiflexor muscles, often caused by compressive neuropathies affecting the common or deep fibular nerves. The etiology of this condition encompasses a wide spectrum of potential causes, including substantial weight loss, prolonged immobility, tight casts, lumbar radiculopathy, and fibular head involvement by bone metastasis (1,2). While these etiologies are well-recognized, less frequently discussed is the role of space-occupying lesions, such as ganglion cysts, in precipitating acute neuropathic symptoms.

Ganglion cysts are benign soft tissue tumors that predominantly affect the wrist but can occasionally manifest in the lower extremities. The proximal tibiofibular joint is an atypical location for these cysts. First documented in 1891, proximal tibiofibular joint ganglion cysts represent a rare etiology of peroneal nerve compression and foot drop (3). This case study aims to shed light on the atypical presentation of this condition, underscoring the significance of considering ganglion cysts in the differential diagnosis of acute foot drop.

A 52-year-old male patient with no known medical history presented to the emergency department approximately two weeks after the onset of symptoms, reporting progressively worsening pain in the right knee and ankle. The pain was localized particularly to the inferolateral aspect of the knee and was accompanied by weakness in ankle dorsiflexion. Imaging studies of the ankle and tibia/fibula revealed no significant

pathology, and the patient was referred to the physical medicine and rehabilitation department for further evaluation.

A subsequent evaluation at the physical medicine and rehabilitation clinic revealed a marked decrease in strength, with a rating of 2/5, in ankle dorsiflexion and toe extension. This evaluation also noted the presence of numbness in the anterolateral leg and dorsal foot. A physical examination of other muscle groups revealed no remarkable findings. Consequently, a comprehensive array of diagnostic procedures was undertaken, encompassing laboratory tests, radiographic imaging, and electrodiagnostic studies. Radiographic imaging revealed mild osteoarthritic changes, while electrodiagnostic testing demonstrated complete injury to the deep branch and severe partial injury to the superficial branch of the right common peroneal nerve.

An ultrasound examination of the peroneal nerve at the fibular head identified a septated cystic formation extending distally from the fibular head. Magnetic resonance imaging was conducted to rule out the presence of a hydatid cyst and instead confirm a ganglion cyst diagnosis. The patient underwent ultrasound-guided aspiration of the cyst (Figure 1). The patient's rehabilitation program encompassed a multifaceted approach, including vitamin B12 supplementation, the utilization of a foot-up orthosis, electrical stimulation, and active-assisted strengthening exercises, along with proprioceptive exercises targeted at ankle dorsiflexors and evertors.

Foot drop is generally attributed to compressive neuropathies or traumatic injuries (4). However, less common etiologies, such as

**Corresponding Author/Sorumlu Yazar:** Bülent Alyanak MD, Gölcük Necati Çelik State Hospital, Clinic of Physical Medicine and Rehabilitation, Kocaeli, Türkiye

**E-mail:** bulentalyanak@hotmail.com **ORCID ID:** orcid.org/0000-0003-4295-4286

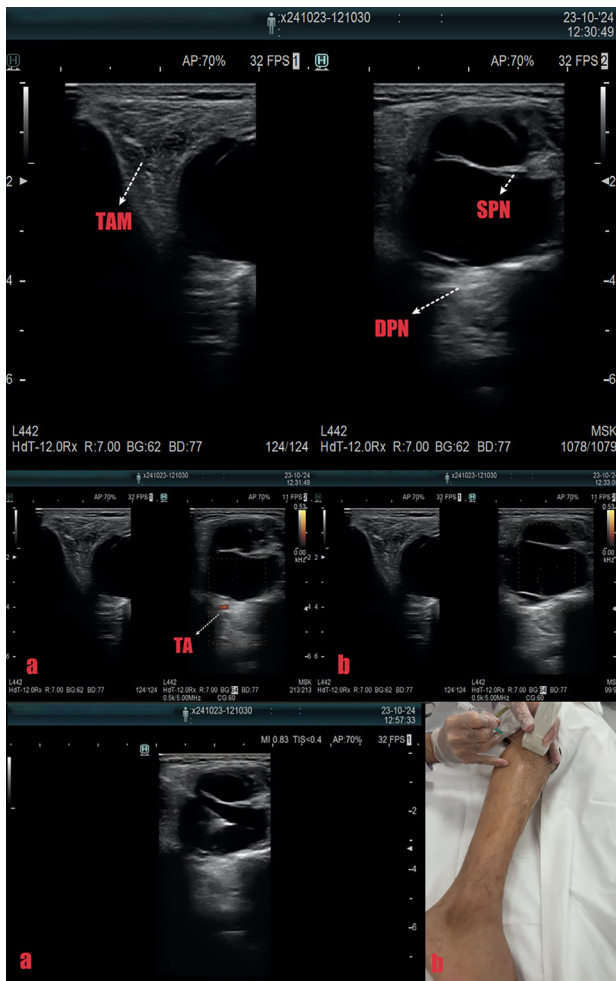
**Received/Geliş Tarihi:** 17.04.2025 **Accepted/Kabul Tarihi:** 04.06.2025 **Epub:** 07.08.2025

**Cite this article as/Atf:** Alyanak B, Yalçın Ü, Ayyıldız A, Dede BT, Temel MH, Yıldızgören MT, et al. Proximal tibiofibular joint ganglion cyst: a rare cause of acute foot drop. Turk J Osteoporos. [Epub Ahead of Print]



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**Figure 1.** Ultrasound imaging and procedural details of a peroneal nerve entrapment case at the fibular head. Upper panel: (left image) Longitudinal ultrasound view showing the tibialis anterior muscle (TAM). (Right image) Longitudinal ultrasound view of the superficial peroneal nerve (SPN) and deep peroneal nerve (DPN) with marked cystic structure compressing the DPN. Middle panel: (a) Transverse ultrasound view highlighting the tibial artery (TA) adjacent to the cyst compressing the common peroneal nerve. (b) Multiple ultrasound images illustrating the cyst location and the cross-sectional anatomy around the fibular head. Lower panel: (a) Magnified ultrasound image demonstrating the septated cystic lesion. (b) Image showing ultrasound-guided aspiration procedure with a needle inserted into the cyst

ganglion cysts, should be considered when patients present with acute lower extremity weakness. Ganglion cysts, although rare in the proximal tibiofibular joint, have been observed to exert significant pressure on the common peroneal nerve, resulting in neuropathic symptoms and functional impairment (5,6).

The utilization of ultrasound and magnetic resonance imaging as diagnostic tools is paramount in identifying ganglion cysts in atypical locations. Ultrasound-guided aspiration, a minimally invasive treatment option, has been shown to provide symptomatic relief and improve functional outcomes. Early diagnosis and appropriate management are crucial to prevent prolonged neuropathic damage and improve recovery.

This case underscores a rare etiology of acute foot drop, underscoring the significance of considering ganglion cysts in the differential diagnosis. Prompt identification and management of such cases can significantly improve patient outcomes. Physical medicine and rehabilitation specialists play a pivotal role in the diagnosis, treatment, and rehabilitation of patients with foot drop due to uncommon etiologies.

## Footnotes

## Authorship Contributions

Concept: B.A., A.A., B.T.D., F.B., Design: B.A., A.A., B.T.D., Data Collection or Processing: B.A., Ü.Y., M.T.Y., Analysis or Interpretation: Ü.Y., M.H.T., M.T.Y., Literature Search: Ü.Y., M.H.T., F.B., Writing: B.A.

**Conflict of Interest:** No conflict of interest was declared by the authors.

**Financial Disclosure:** The authors declared that this study received no financial support.

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