Diagnosing Bilateral Tarsal Tunnel Syndrome

To the Editor:

Tarsal tunnel syndrome is a clinical condition characterized by pain and numbness involving the feet, and it occasionally spares the heels. It is often caused by physical compression by ganglion or posttraumatic change in the tunnel.1,2 Cases of idiopathic bilateral tarsal tunnel syndrome have been reported, but not as many as expected, thereby rendering the entity and diagnosis of this condition ambiguous. This may be because the symptoms are complicated and ignored by patients and health care professionals. Hence, tarsal tunnel syndrome could be overlooked or underdiagnosed, and thus, underreported. We describe a patient with bilateral tarsal tunnel syndrome whose etiology was unclear.

CASE PRESENTATION

A 76-year-old man with no history of foot trauma presented with pain and numbness in both feet for 2 years. Two years prior, he gradually experienced pain and numbness below the ankles. He visited a local neurologist and was treated with oral medications (unknown), but he had no improvement. The numbness and pain worsened, and for more than half a year, he was unable to sleep throughout the night. The pain was achy, nonradiating, and irritating at night. He had a history of hypertension, reflux esophagitis, insomnia, benign prostatic hyperplasia, pancreatitis, Crohn disease, and bilateral cataract. He denied any history of trauma, rheumatic diseases, ganglion, or tumor. On examination, his vital signs were stable, and bilateral weakness of his flexor hallucis longus with bilateral atrophy of the abductor hallucis.
were noted (Figure 1A, B). Numbness was noted below both ankles with spared sensation around the heels. The bilateral Tinel sign over the area posterior to the medial malleolus was positive, and the dorsiflexion test result was positive.\textsuperscript{3} The magnetic resonance imaging scan of the lower extremities only showed varicose veins, which seemed to not be adjacent to the posterior tibial nerve; no obvious ganglion or tumor was observed. Results of a nerve conduction study showed decreased conduction velocity of both posterior tibial nerves (distal to the ankle joint). Therefore, tarsal tunnel syndrome was clinically diagnosed.

Additional test results were inconsistent with other systemic disorders, including rheumatoid arthritis, hypothyroidism, acromegaly, and amyloidosis, which can be the underlying etiologies of tarsal tunnel syndrome. Because his symptoms were refractory to conservative medical treatment, surgical decompression of the posterior tibial nerve was performed by opening the laciniate ligament. Intraoperatively, we observed flattening and mild redness of the tibial nerve in the deep layer of the flexor retinaculum portion proximal to the branch of the ligament (Figure 2). After treatment, numbness of the fingertips of both feet diminished, and the severity of numbness and pain in the soles of his feet decreased to about 20% of its peak.

CONCLUSIONS

As the duration of nerve compression increases, the possibility of irreversible nerve injury may increase. According to one Japanese article,\textsuperscript{4} it is possible for patients to self-diagnose themselves as having tarsal tunnel syndrome with a high diagnostic accuracy if they are familiar with the disease. Additionally, approximately 90% of patients have bilateral manifestation at the first office visit. From the viewpoint of bilateral syndrome, physicians are prone to diagnosing systemic diseases, not a localized nerve entrapment condition.\textsuperscript{4} To avoid this bias and premature diagnosis, we believe our case serves as an aid for diagnosing tarsal tunnel syndrome.

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