Treatment of Peroneal Tendonitis and Plantar Fasciitis Using Instrument-Assisted Soft Tissue Mobilization: A Case Report

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Background and Purpose

Foot and ankle pathologies are common causes of pain, dysfunction and functional limitations in the population. Building evidence suggests instrument-assisted soft tissue mobilization (ISTM) may benefit of a variety of musculoskeletal conditions by promoting tissue healing and remodeling. This case report seeks to demonstrate the effectiveness of an ISTM approach as a primary conservative intervention in a patient with plantar fasciitis and peroneal tendonitis and an associated history of two foot accessory bones (os fibularis and os navicularis).

Case Description

A 24 year-old female student presented with chronic right lower extremity pain in the lateral leg, perilateral malleolus, and the plantar foot. Her pain level varied depending on duration, intensity and type of activity. Significant history included sports-related ankle sprains and diagnosed plantar fasciitis. Radiographs revealed two accessory foot bones. She received no prior treatment.

Initial and final assessment was performed by one examiner; treatment by another. Key subjective findings were an “at worst” pain = 7 (0-10) and a lower extremity functional scale (LEFS) score = 48 (0-80). Observational findings were gait analysis deviations of minimal toe-break and decreased forward propulsion. Objectively, impairments in right lower extremity range of motion (ROM) and strength measures were present. Palpation revealed multiple fibrotic nodules and soft tissue restrictions along the right calf, plantar fascia and course of the peroneal muscles and tendons.

ISTM was administered in 5 sessions (approximately 20 min/session) over 4 consecutive weeks to the gastrocnemius muscle belly, peroneal myotendinous units, perilateral malleolus tissues and along the plantar surface of the foot. Instructions in icing as needed and a home program of daily flexibility and strengthening exercises were provided.

Outcomes

On discharge evaluation, the patient reported a 20% increase in lower extremity functional ability, indicated by her final LEFS score (65/80) and a decreased “at worst” pain rating to 3/10. Resolution of gait deviations, improvements in eversion strength, and increased great toe extension and dorsiflexion ROM were obtained. Specific gait pattern improvements were an increased toe-break at push-off allowing improved forward propulsion. Range of motion was bilaterally symmetrical.

Discussion

An ISTM approach was used successfully to improve several outcome measures in a patient with a relatively rare pathological foot condition and associated dysfunctions. Most significantly, her LEFS score increased almost twice the minimum clinical important difference of 9 points.4 She experienced a significant pain reduction and improvements in strength, ROM and gait pattern. Although this case report suggests ISTM was beneficial for this patient’s condition, ongoing investigation is needed to elucidate the mechanisms and clinical outcomes of this conservative manual therapy approach.

References

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