Overview

Extensor digitorum brevis muscle of the foot  Myofascial Pain Syndrome

Definition
The Myofascial pain syndrome (MPS) is a syndrome characterized by chronic pain caused by synergetic action of muscular fascial constrictions and multiple trigger points.

Myofascial pain occur typically in distinct, isolated areas of the body, and signs and symptoms are related with the affected muscle or fascia. The muscular pain is steady, aching, and deep, the myofascial pain varies in location and in intensity from mild discomfort a\w hyrritability to excruciating and lightning-like pain. Among the symptoms are referred pain, limited range of motion, and sleep disturbance.

Trigger Points

The Trigger points (TrPs) are hyperirritable spots a\w a hypersensitive palpable tight in the affected muscle and that when touched or pressured, produce tenderness and, rarely, twitching and always jumping.

The trigger points area is typically painful to compression, causing characteristic referred pain and hypersensitivity, motor dysfunction and even autonomic phenomena. For a correct diagnosis of a Myofascial Pain Syndrome is basic the detection of a taut band, the presence of spot tenderness, the presence of referred pain and reproduction of the patient's symptomatic pain (Four criteria of Gerwin for diagnosis of Myofascial Pain Syndromes).

According to Podiatrist's Guide to Trigger Points & Myofascial Pain Syndrome for a correct diagnosis is basic to detect : Regional pain complaint; Taut band palpable in an accessible muscle; Exquisite spot of tenderness in the taut band; Pain complaint or altered sensation in the expected distribution of referred pain from the tender spot ; Some restricted range of motion, when measurable and in addition, in according with M.B. Yunus, at least one of the following minor criteria: Reproduction of clinical pain complaint, or altered sensation by pressure on the tender spot; Local twitch response by transverse snapping palpation of, or needle insertion into the taut band; Pain alleviation by stretching the involved muscle or injecting the tender spot in it.

Symptoms with active Trigger Points (TrPs)

Night cramps in the foot
Tenderness from extensor digitorum brevis muscle TrPs tends to project locally

Cramping in the foot

Referral Area / Referred Pain form Myofascial Trigger Points (TrPs)

Pain and tenderness to the foot but not to the ankle or above it

When patients say they "sprained" an ankle and complain of foot but not ankle pain, one should look for trigger points (TrPs) in the intrinsic foot muscles as a cause of the pain. Janet G. Travell and David G. Simons

Pain projects locally over the dorsal region of the foot (dorsum pedis) near the ankle joint

Pain and tenderness to the proximal part of the dorsum of the foot in front of the lateral malleolus

Trigger Points Examination and Diagnosis

The trigger points (TrPs) are hyperirritable spots a\w a hypersensitive palpable tight nodule located in a taut band of fibers of extensor digitorum brevis muscle of the foot and that when touched or pressured, produce tenderness and, rarely twitching.

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The pattern of referred pain and hypersensitivity constitute the key for their identification because the trigger points of extensor digitorum brevis muscle of the foot produce pain locally (right where they are) as well as often referred pain to other areas.

Using immune-capillary electrophoresis and capillary electro-chromatography Jay P. Shah and others have shown that biochemical milieu of selected inflammatory mediators, neuropeptides, cytokines and catecholamines like bradykinin, substance P, calcitonin gene-related peptide, tumor necrosis factor alpha, interleukin 1&beta; (IL-1&beta;), IL-6, IL-8, serotonin, and norepinephrine in subjects with active MTPs are different from subjects with latent or absent MTPs H See also Jay P. Shah MD, Jerome V. Danoff © 2008 American Congress of Rehabilitation Medicine

Click for common location of Trigger points in extensor digitorum brevis muscle of the foot

Differential Diagnosis

Referred pain pattern by TrPs in the extensor digitorum longus muscle of the foot

Referred pain pattern by TrPs in the peroneus longus muscle

Referred pain pattern by TrPs in the peroneus brevis muscle

Two myofascial pain syndromes might be mistaken for TrPs in the extensor hallucis brevis and extensor digitorum brevis muscles that refer pain and tenderness to the proximal part of the dorsum of the foot in front of the lateral malleolus. The referred pain pattern of the extensor digitorum longus is quite similar but extends farther distally and may spill over to include the toes and the lower leg. The pattern referred by TrPs in the peroneus longus and peroneus brevis muscles differs in that it appears more on, and behind, the lateral malleolus than in front of it. Janet G. Travell and David G. Simons
Trigger Points Release

Trigger Points Injection

Corrective Actions

Stretching Exercise

Massage Therapy
Posture Evaluation and Ergonomics Drugs

Drugs of Choice

Serotonin-norepinephrine reuptake inhibitor
Calcium Channel Blockers
Muscle relaxants