

Effect of Combination Therapy [TENS & Ultrasound] and Ischemic Compression in the Treatment of Active Myofascial Trigger Points

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Abstract

Myofascial trigger points are discrete palpable hyperirritable loci within taut bands of skeletal muscles. At present various interventions are available to treat myofascial trigger points. However, there are not many studies that have analysed the effects of combination therapy and ischemic compression in the treatment of active myofascial trigger points. The aim of this study was to find out the effect of combination therapy and ischemic compression in the treatment of active myofascial trigger points. Fifteen subjects were randomized in each combination therapy group (A) and as well as ischemic compression group (B). Both groups received treatment daily for one week. In group A, combination therapy was given for 10 minutes, whereas in group B, subjects received gradual compression of 60 seconds for 3 to 4 times. Outcome was evaluated by visual analog scale and range of motion. Study showed significant ($p < 0.05$) reduction in pain and also increased range of motion in both groups. But the pain reduction and increased range of motion was more significant in-group A than group B. Combination of TENS and ultrasound therapy proved more effective treatment modality in active trigger points and provided prompt relief of symptoms than the ischemic compression alone.

Key Words: Myofascial, Trigger points, Ischemic compression, Combination therapy, Tens, Ultrasound

Introduction

Myofascial pain syndrome is among the most commonly encountered disorders seen by physiotherapists. It is characterized by trigger points, which are defined as hyperirritable spots within taut bands of skeletal muscle fibers. The syndrome is associated with tenderness in the muscle, characteristic referred pain, spasm, and restriction of motion (*Hsueh et al, 1997*).

Trigger points are classified as being active or latent, depending on their clinical characteristics (*Han and Harrison, 1997*). An active trigger point causes pain at rest and is tender to palpation with a referred pain pattern that is similar to the patient's pain complaint (*Ling & Slocumb, 1993; Hong & Hsueh, 1996; Han and Harrison, 1997*). Occupational or recreational activities that produce repetitive stress on a specific muscle or muscle group commonly cause

chronic stress in muscle fibers, leading to trigger points (*Rachlin, 1994*). Structural imbalances may also result from chronically shortened muscle groups. These muscle groups are likely to restrict range of motion and distort the body's posture. The distortion may perpetuate overloading of other muscles, keeping trigger points active in them. In effect, the shortened muscles perpetuate myofascial pain syndromes of the other muscles (*Finn, 1994*).

Travell & Simons (1999) have claimed that myofascial trigger points from neck and shoulder muscles might play an important role in the genesis of mechanical neck pain. The exact pathology of mechanical neck pain is not clearly understood and has been purported to be related to various anatomical structures including, intervertebral joints, neural tissues, discs, muscular disorders and ligaments (*Travell & Simons, 1999; Maitland et al, 2000*).