Efficacy of the use of two simultaneously TENS devices for fibromyalgia pain.

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Source

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Abstract

Fibromyalgia is characterized by a range of symptoms that include muscle pain, fatigue and sleep disorders. Transcutaneous electrical nerve stimulation (TENS) is an established method for pain relief. The purpose of the study was to evaluate the effectiveness and safety of the use of two simultaneously new TENS devices for fibromyalgia pain. After Ethics approval and informed consent, 39 patients were prospectively divided into three groups to evaluate TENS device, applied simultaneously in each patient: (1) at the lower back (perpendicular to the vertebrae canal, at the level of the 5th lumbar vertebrae) and (2) centrally above and below the space between the C7 and T1 spinous processes. The devices were applied for 20 min at 12-h interval during 7 consecutive days. For the placebo group (PG), the devices did not transmitted electrical stimulus. The single-TENS group (STG) (n = 13) had one active and one placebo TENS. The DTG applied both active TENS devices at the low back and cervical areas. Diclofenac was used as rescue analgesic. The efficacy measures were pain relief, reduction in use of daily analgesic tablets, quality of sleep and fatigue. The evaluation within groups revealed that patients from DPG refereed no pain relief when compared to their previous VAS pain score (8 cm, $p > 0.05$), while patients from the STG refereed improvement of 2.5 cm in the pain VAS (previous 8.5 cm compared to 6 cm after treatment) ($p < 0.05$), and the DPG refereed daily maintained reduction of 4 cm in the VAS pain (previous 8.5-4.3 cm) ($p < 0.02$). Concurrent daily consumption of analgesic tablets was reduced in both STG ($p < 0.05$) and DTG ($p < 0.02$). Comparison among groups revealed that analgesia, as well as quality of sleep and disposition, was DTG > STG > PG ($p < 0.05$). Participants subjectively found the active device useful. While the application of a single active TENS improved pain relief in fibromyalgia pain, pain and fatigue were further improved when two active devices were simultaneously applied at the low back and cervical area, with no side effects.