

Effects of Transdermal Application of Steroids in Radiculitis

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Abstract:

Iontophoresis is used as a means of delivering drugs across the skin for the management of a variety of medical conditions, most often, for localized inflammation and pain. There are many previous studies indicating that this mode of drug delivery can be useful, and iontophoresis with dexamethasone phosphate (DEX-P), sodium diclofenac, and acetic acid appears to be effective in treating inflammations in several areas of the body. The objectives of such research explorations were to see if local iontophoretic administration of an antiinflammatory drug to patients with tendonitis at the shoulder joint would achieve results similar to those obtained by local injection of the drug. Results were positive for iontophoretic delivery. Transdermal application of the steroids (iontophoresis) in addition to medical and physical therapy treatment was done in 36 patients with cervical & lumbar radiculitis. The protocol was followed for 1 week with outcome measures of VAS score, Dallas Pain Questionnaire score, Neck Pain & Disability Index score, and Modified Oswestry Disability Index score. The mean, standard deviations were calculated for all variables. Further Willcoxon Signed Rank Test was used within the group and Kruskalwallis Test & Jonkheere-Terpstra were applied between the groups to find the most effective one. On analysis test results were found significant within the group and between all the three groups. It was concluded that on comparison between the groups, the third group in which iontophoresis was used along with medication and other physical therapy modalities showed the best results.

Key words: Iontophoresis, Cervical & Lumbar Radiculitis

Introduction

Radiculitis is also termed as radicular pain syndrome, which means alterations of sensation or of muscle power which show that the primary disease-process producing them is in the spinal roots and not in the tracts and nuclei of the spinal cord (*Hubeny, 1933*). Cervical radiculopathy is a common condition that usually results from compression and inflammation of the cervical nerve root or roots in the region of the neural foramen. It is frequently caused by cervical disc herniation and cervical spondylosis. It occurs annually in 85 out of 100,000 people (*Khalid et al., 2007*). Clinical symptoms of cervical radiculopathy include pain and paresthesias radiating

along the distribution of a nerve root, often associated with sensory loss and motor dysfunction (*Kyoung & Young 2010*). Lumbar radiculopathy is a condition in which disease process affects the function of one or more lumbosacral nerve roots (*Taruli et al, 2007*). The nerve root pathology arises primarily from direct neural compression irrespective of whether the etiology is an acute herniated or displaced disc, bony spurs, foraminal stenosis, central stenosis, or hypermobility of a vertebral segment. The prevalence of lumbar radiculopathy varies from about 2.2% to 8% and the incidence ranges from 0.7% to 9.6%. However in patients with radiculopathy and stenosis usually present with low back pain and unilateral more than bilateral leg pains, numbness, and