



A CLINICAL STUDY OF 30 CASES OF EFFECTIVENESS OF CERVICAL TRACTION IN CERVICAL SPONDYLOSIS

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ABSTRACT

Background Cervical Spondylosis is a condition in which there is deterioration of the vertebrae, discs and ligament in the neck or cervical spine, also known as Arthritis of neck, cervical osteoarthritis, or degenerative osteoarthritis. Cervical Spondylosis may be basically a degenerative disorder common after fourth decade. It has been seen that radiological proof of cervical spondylosis do not necessary co-relate with clinical findings. This discrepancy need been attributed of the Morphometric measurements of the vertebrae, age, sex, race, occupation, weight and stature of the patients.

Method 30 patients were allocated under two groups comprising 15 patients. Group A gained hot pack and exercise. Group B gained hot pack, cervical traction and exercise. Assessment might have been completed On day 0 follow up at 2nd and 4th week by using neck disability index (NDI) and numerical pain rate scale (NPRS).

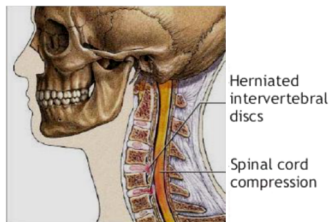
Result At 2nd week, assessment indicated that there is significant difference ($p < 0.05$) inside the groups for every last one of variables measured. At 4th week assessment of both group showed a very high significance ($p < 0.05$) inside the group for all the results. Comparison of measured variables between the groups indicated that the Group B showed a statically significant ($p < 0.05$) reduction in NPRS and NDI.

Conclusion It is concluded that despite the fact that hot pack and neck exercise are effective, in addition of intermitted cervical traction with hot pack and exercise is considerably more effective in the management of cervical spondylosis.

KEYWORDS : Cervical Spondylosis, Intermitted Cervical Traction, Hot Packs, Conventional Therapy

Introduction

Cervical spondylosis is defined as "spinal canal and neural foraminal narrowing in cervical spine secondary to multifactorial degenerative changes" This is one of the most common degenerative disorders of the spine, affecting 95% of patients by the age of 65 years. The degeneration of the intervertebral disc stems with osteophyte formation of the Amphiarthrodial joint, differentiating with arthritis, which may be connected with Diarthrodial joints Also synovial space. The non-inflammatory disc degeneration is one of the defining characteristics of spondylosis.



Cervical spondylosis is a degenerative disorder started in the intervertebral disc and progressing with the advancement in the age to involve more than one disc it covers the pathology in the spine and also neurological syndrome connected with It. Approximately 5% of the people under forty years age, 20% of people over forty years of age and around 75% of people over sixty years of age have some degree of degeneration.

As there are many controversies and unclear results with the use of intermittent cervical traction in cervical spondylosis the purpose of this study was to see a clear result of the effectiveness of intermittent cervical traction on pain and disability in patients with cervical spondylosis along with conventional Rehabilitation program with specific protocol.



X-ray of neck showing Cervical Spondylosis

Methods and Material

The present clinical study was conducted on 30 patients were include in the study with Cervical Spondylosis diagnosed in OPD Department of Physical Medicine & Rehabilitation, KGMU, Lucknow and treatment had given in Physiotherapy unit K.G.M.U. Lucknow. Study duration was from Jan 2017 to July 2017.

INCLUSION CRITERIA

- Both men's and females were included with age 45-65 years.
- Unilateral upper extremity pain, paresthesia or numbness.
- Neck handicap list score for 10 or more in 3 of 4 tests for clinical prediction rule positive Spurling test Distraction test
- Upper limb tension test-1.
- Ipsilateral cervical rotation less than 60 degree.

Exclusion Criteria

- History of previous cervical or thoracic spine surgery Bilateral upper extremity
- Symptom
- Cervical trauma
- Shoulder and elbow musculoskeletal problems Fracture of spine and upper Limb
- Rheumatoid arthritis
- Osteoporosis
- Current use of steroidal medication prescribed for radiculopathy symptoms.

INTERVENTION

30 patients both male and female were taken satisfying Inclusion criteria were divided under two group: Group A and Group B patients were evaluated toward day 0 and follow up at 2nd and 4th weeks with help of neck disability index (NDI) and numerical rating scale (NPRS).

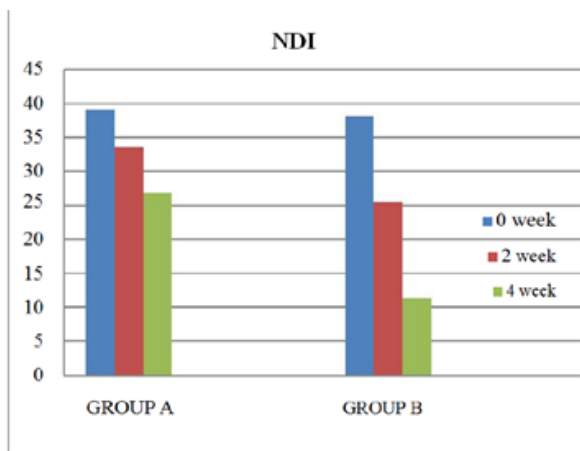
I. Group A (Control group)

Patient in this group received a 4 weeks conventional rehabilitation program includes hot pack and exercise program. An exercise program includes cervical retraction, cervical extension, deep cervical flexors, strengthening scapular strengthening exercise.

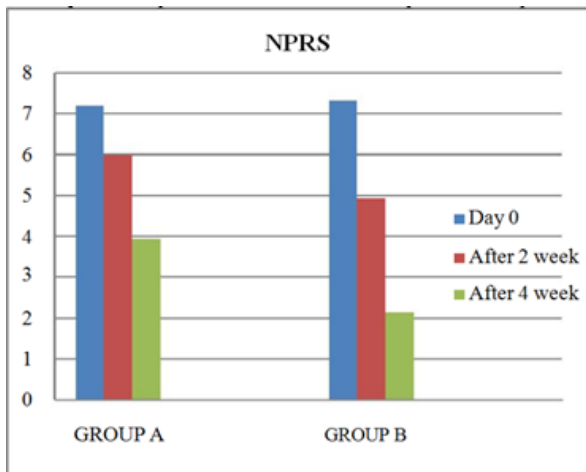
II. Group B (experimental group)

Patient in this group but also treated identically to that of the control group that is with the conventional rehabilitation program which includes hot pack and exercise but in addition to that patient in this group received intermittent cervical traction. The patient were positions supine with the cervical spine place at an angle of 15 degree of flexion. The traction force given to the patient was 10% of their body weight but can be adjustable according to patient tolerance the hold and relax was set 50 seconds hold and 10 second relax. Duration of traction was 10 minutes treatment received by patient was 5 days per week for 4 weeks.

The mean and the standard deviation (SD) of Day0, after 2nd week and after 4th week NDI scores for both, Group A and Group B. The intra group Day0, 2 week and 4th week analysis of the NDI score shows a mean difference of 3.267 ($t = 10.347$, $p = 0.00$), which is highly significant statistically ($p < 0.05$). The mean and the standard deviation (SD) of Day0, 2nd week and 4th week NPRS scores for both, Group A and Group B. The intra group comparison of NPRS score was 5.200 ($p = .001$), shows a statistically highly significant reduction ($P < 0.05$) in reported rate of pain after 4 weeks of interventions.



Graph - I Comparison Of NDI Between Group A And Group B



Graph - II Comparison Of NPRS Between Group A And Group B

Discussion

Cervical spondylosis is a degenerative disorder which is characterized clinically by pain in the neck with or without radiation, tingling, numbness, and paresthesia and in later stages there is spondylotic myelopathy of the upper extremity and radiologically reduction in the intervertebral disc space and the formation of marginal osteophytes is observed. Posteriorly osteophytes protrude into spinal canal and laterally into the intervertebral foramina. The spinal cord as well as nerve root impingement by the posterior and lateral osteophytes and the bulging intervertebral

disc would present as local neck stiffness and radicular pain along the offending nerve root. Long standing compression of the spinal cord can cause irreversible damage including demyelination and necrosis of the grey matter.

They have observed that age and sex were determinants as risk factors for components of cervical spondylosis. On normal healthy Indian adult subjects reported that mid sagittal diameter was smaller in females than males. Study reported higher incidence of spondylotic changes with the increasing age in the population. Limitation of our study was that it is a hospital based study so that we cannot get the population prevalence estimate from the study population. However, it has attempted to describe the prevalence in the hospital setting and give an insight into the age and sex distribution and outcome in the study population. Cervical traction is sometimes more effective in Cervical Spondylosis. It is a physical therapy procedure which is most frequently used for Cervical spasm, neck pain, radiating pain to upper limb. Which are caused due to cervical disc lesion, Cervical Spondylosis hypomobile facet joint, cervical muscular dysfunction and cervical facet joint lesions. Results of this study reinforce and augment the fact that manual therapy had a positive significant effect over neck pain. The magnitude of improvement was set at 0.85cm on VAS scale (29), was met with in first week of treatment in manual therapy group and only in second week of treatment in cervical traction group. The short term effects found in this study were also reported by another study. There was also improvement in terms of Neck Disability Index across the both treatment group with greater reduction in manual therapy group compared to cervical traction. However none of the both technique exceeded the minimal clinical important detectable difference (MCID) of 7 points on Neck Disability Index. Previous studies have reported the change in NDI score differently. There was significant change of 7 points on NDI following a 6 weeks of manual therapy

Conclusion

On the basis of results of the study it may be concluded though Hot pack and neck exercise are effective, the addition of intermittent cervical traction with Hot pack and exercise is even more effective in the management of cervical spondylosis. Cervical traction is a widely used technique. This form of treatment may be useful because it promotes immobilization of the cervical region and widens the foraminal openings. The use of cervical exercises has been advocated in patients with cervical spondylosis. Isometric exercises are often beneficial to maintain the strength of the neck muscles. Neck and upper back stretching exercises, as well as light aerobic activities, also are recommended. Passive modalities generally involve the application of heat to the tissues in the cervical region, either by superficial heat therapy (eg, moist-heat packs) or deep heat therapy (S.W.D. and ultrasound therapy).

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