Effect of Cervical Traction and Exercises Therapy on Cervical Spondylosis

Adhya Suman[1], Dr. Apoorva Srivastava [2]
[1]*Intern, Rama Hospital and Research centre*
[2]*Assistant professor, Rama Institute of Paramedical Sciences, Rama university*

Abstracts-Background A common degenerative condition of the cervical spine in our population is cervical spondylosis. The illness spreads slowly and gets worse over time. The term "cervical spondylosis" refers to a broad range of gradually developing degenerative alterations that impact every part of the cervical spine. This illness spreads slowly and gets worse over time. This study aims to highlight the purpose of this study is to identify the variables that affect cervical spondylosis. A 28-year-old patient arrived at our Hospital complaining of discomfort and stiffness in the cervical region for a year, as well as pain that has been radiating to both upper limbs for four months. Since one month, she has experienced unpleasant neck motions. Her condition was identified as cervical spondylosis. MRI was suggestive of osteophytes at the C6 level and ligamentum flavum thickening, which indent thecal sac and compress the bilateral leaving nerve roots and we releases the patient pain with the heat therapy, deep tissue massage, exercises, cervical traction, cervical strengthening. At the end of the 12-week treatment and 4-week follow-up, the patient receiving PNMES (percutaneous neuromuscular electrical stimulation) exhibited more decreases in the mean VAS, respectively, compared with the patient receiving PNMES. Additionally, the increase in the mean ROM was also significantly higher in the PNMES. At the end of a 12-week treatment and a 4-week follow-up, the patient is very satisfied. He increased working hours, and mobile use had a significant impact on disease. He can intervene in the progression of disease by adopting a healthy lifestyle and taking precautions to prevent it. Patient middle age, Men long sitting in computer system working more than 7 hours can influence development of cervical spondylosis by adapting healthy life style to prevent it

Keywords: Cervical spondylosis; cervical osteophytes; Neck pain; Body height; Spine

INTRODUCTION

Degeneration of the intervertebral discs and osteophyte development are characters of cervical spondylosis. [1] It is a degenerative condition that is increasingly prevalent nowadays as a result of modern lifestyles that include prolonged sitting or standing, hours-long computer use, and a lack of exercise. It is increasingly prevalent among people in their early to mid-life. the cervical spondylosis. The cervical spinal cord may be compressed by an osteophyte that narrows the spinal canal, ossification of the posterior longitudinal ligament, or a massive central disc. [2] Bone spurs, or the expansion of bone, injuries, ligament stiffness, overuse, etc. are common causes of cervical spondylosis. [3] Osteophytes and disc degeneration at the intervertebral disc are the first signs of pathology, which lead to compression of the cervical nerve. It results in discomfort [4], stiffness in the neck pain. chronic multisegmented/MS dysfunction of the facet joints, changes in the physiological curvature of the cervical spine, degenerative changes anterior osteophytes, inflammatory injuries, complications of anterior cervical spine, and injury are cervical spine disorders that can make swallowing difficult (cervicogenic dysphagia [CGD]).1

Given the near closeness of the oropharynx and oesophagus to the cervical spine, any anatomical alterations or functional dimensions that negatively affect the size of the pharynx and cervical oesophagus may impair normal swallowing. [1,2]. Failure to distinguish between cervical discs ligaments stress or repetitive or chronic degeneration and cervical disc herniation cause cervical spondylosis and all of its symptoms. Stress in the back joint. A prevalent problem among the ageing population is cervical spondylosis, which is the progressive degradation at the intervertebral disc. It is osteoarthritis of the cervical spine and encompasses osteoarthritic changes that take place elsewhere in the body, such as osteophytes, a narrowing of the intervertebral disc space, subchondral sclerosis, and the formation of

subchondral cysts. It frequently manifests as back or neck pain. It is a significant public health concern due to its high prevalence and sneaky beginning, which puts a significant strain on the health care system. Currently, ergonomic changes and contemporary technology have made the neck and shoulder regions more vulnerable to damage [3].The intervertebral disc anteriorly, the too zygo- apophyseal joints and other three joint connect lowest five cervical vertebrae. A well-known kind of physical treatment is cervical traction, either by itself or in conjunction with posture instruction, exercise, and massage. It is intended for situations where repetitive and ongoing cervical traction is necessary. It comprises of a basic frame from which a rigid head halter is hanged and fastened to the chin and occiput. Through the use of contoured shoulder cushions with a sponge rubber base, the frame is small enough to rest on both shoulders. There is a "boot" that is firmly fastened to them and accepts the frame itself. Cervical traction relates to the anteflexed posture of head and neck. With the anteflexed angles adjusted from 5° to 20°, the maximum traction tress concentrates from upper cervical vertebrae to the lower [13, 14]. In the CSR, the frequent lesion site is C5-C6 [15].Cervical spondylosis is a general name for the cervical spine's degenerative process. It shows up as cervical radiculopathy, cervical myelopathy, or as axial joint pain radiating to the medial scapula, chest, head, and shoulder when clinical disorders compressing the cervical nerve roots or spinal cord are present. The anatomical characteristics of the cervical spine, such as congenital canal stenosis, or biomechanics, such as poor posture, stress, sport, or professions, can be accounted for as the causes of these degenerative disorders [8]. Despite the fact that there are many treatments currently available for the relief of neck pain in Cs, including nonsteroidal anti-inflammatory drugs, 2 physiotherapy, [18,19]] analgesics, and [20,21], many of these therapies are associated with onerous side effects and have a limited ability to relieve neck pain. Acupuncture, [22] neck exercises, [18,23] percutaneous neuromuscular electrical stimulation (PNMES), [24] herbal medications, [25] and other forms of alternative therapy have reportedly been used extensively to alleviate CS neck discomfort, often with little or no side effects. However, there have been no randomised controlled trials that examined the efficiency and safety of PNMES for treating neck pain in CS patients.

CASE DESCRIPTION

A 28-year-old man who had trouble swallowing and neck stiffness presented. He had trouble swallowing solid foods for about 4 months earlier, and for the previous 12 months, he frequently choked on liquids as well. The neurological evaluation and medical history were unremarkable. He had never suffered a serious injury before. T7/8 The cervical range of motion was restricted to 14° of cervical extension and 41° of cervical rotation (normal reference: >60° and >80°, respectively). Restriction was felt in the spine at the C2/3, C5/6, T3/4, T4/5, and vertebral segments. The upper trapezius was moderately hypertonic. cervical mobilisation and strengthening exercises, stabilising cervical subluxation, and restoring joint mobility. Isometric exercises made up the neck strengthening exercises. In order to develop the targeted muscles, hands are used to exert resistive force to the head while the neck is held in a fixed or immobile position during cervical isometric (no movement) training. This encourages activity in the deep neck flexors and overall good neuromotor control of the cervical spine by maintaining the chin tuck position. The neck distraction tests the neck spurling test are positive XRAY finding diagnosed in cervical spondylosis shown in osteophyte formation C6 vertebrae. However, disc calcification and cervical instability were not noted.

PHYSIOTHERAPY MANAGEMENT

Your physiotherapist assists you with cervical spondylosis physical therapy exercises and activities to help you stretch and strengthen the muscles in your neck. There are some patients with cervical spondylosis who benefit from using traction. If your nerve roots are being compressed, traction can help by creating more room within your spine. Can physiotherapy treat cervical spondylosis, then? For cervical spondylosis, physical therapy activities can be helpful. However, there isn't any conclusive proof that cervical spondylosis physiotherapy alone can treat the condition. However, mobilisation can help with pain management and daily functioning when combined with cervical spondylosis physical treatment. There are many different workout routines that are

strengthening, offer endurance and coordination, and are more advantageous than traditional pharmaceutical care, yet there

CERVICAL TRACTION

For a number of cervical diseases, cervical traction is a non-invasive technique that offers symptomatic alleviation. There is little information on its long-term safety and therapeutic value, despite the fact that it may provide momentary symptom alleviation. This activity discusses cervical traction's indications, contraindications, and procedures while highlighting the importance of the interprofessional team in providing care for patients who use cervical traction

Figure 1:Cervical traction

CERVICAL STRENGTHENING

CERVICAL FLEXION

Bend your neck slightly forward and put your hand on your forehead. Try to bend your head forward while pushing back with your hand.

CERVICAL EXTENSION

Keep your up and your neck straight and place your hands at the back of your head.

Try to push your head backwards while pushing forward with your hand.

CERVICAL SIDE BENDING

Figure2.Cervical stretching

Keep your head straight and your chin level. Put your right hand on the right side of your head.

Try to bring your head down to your right shoulder while pushing up with your right hand.

REPEAT the Side Bending, but to the left side with your left hand.

CERVICAL ROTATION

Put your left hand at chin level and turn your head slightly to the right. o Put your right hand on the right side of your face.

Turn your head to the right while pushing it back with your right hand. o REPEAT the Rotation Exercise, but on the left side of your face and with left hand.

DEEP TISSUE MASSAGE

The goal of deep tissue massage is to treat chronic muscle tightness and spasms that may arise from daily stress. Strains or sprains may also cause you to experience muscle tension or spasms. To relieve stress in your soft tissues, the therapist uses direct touch and massage. A deep tissue massage frequently concentrates more on a sore spot.

HEAT THERAPY

Putting a heating pad or a cold pack on your neck will help soothe tight muscles. Regular exercise helps hasten your recovery. Wearing a soft collar or neck support can offer momentary relief. However, you should avoid using a neck support or collar for prolonged durations as this can cause your muscles to become weak

EXERCISES

Isometric exercise, strengthening exercise ROM increase muscle core exercise strengthening exercise mobilization MFR.

Figure3. Cervical compression

Figure 4. Spurling test

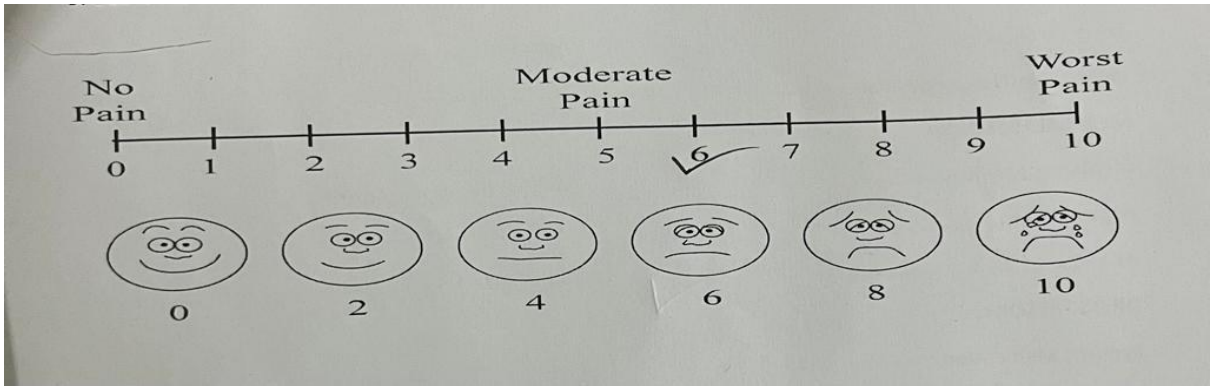
Figure5.Side stretching

OUTCOME MEASURE

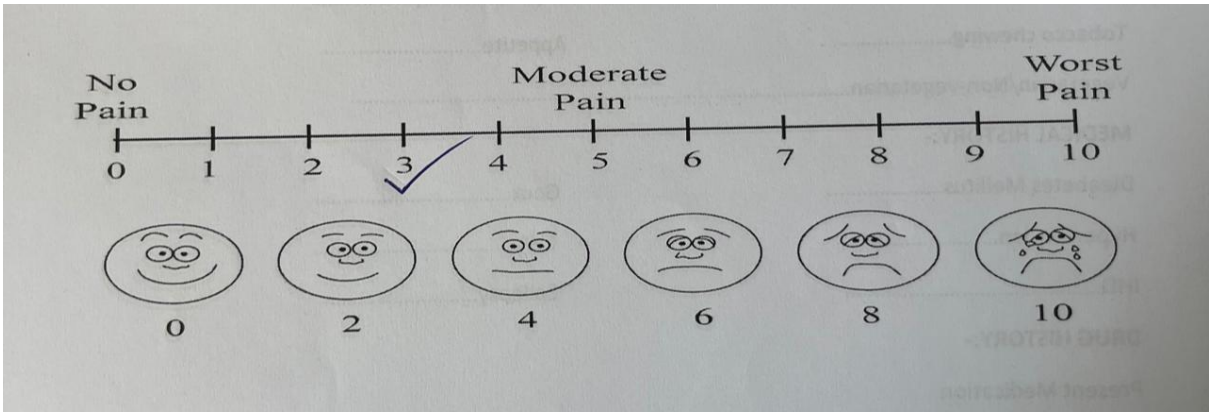
VISUAL ANALOG SCALE

One of the pain rating measures was a Visual Analogue Scale (VAS), which was utilised for the first time by Hayes and Patterson in 1921. It is frequently used to gauge the severity or occurrence of different symptoms in epidemiologic and clinical research. For instance, the level of pain that a patient experience can be anywhere along a continuum, from none to extremely high levels. The patient sees this spectrum as continuous rather than in discontinuous jumps as would be implied by the categories of none, mild, moderate, and severe. The VAS was developed in order to capture this notion of an underlying continuity.

Pre-treatment



Post- treatment



DISCUSSION

study as contributing to cervical spondylosis 28 year in male patient. In addition to excessive cell phone use, computer worker also plays a role. Reduced intervertebral disc space and the growth of marginal osteophytes are the disease's radiographic symptoms. Laterally and posteriorly into the intervertebral foramina as well as into the spinal canal, the osteophytes compressin extreme situations, compression of the spinal column can cause irreversible damage to the brain, including necrosis and demyelination of the grey matter. which first appear in middle age and hasten the degeneration process, can also result from compression of the spinal column. It was surprising to see that the cases showed a tendency towards pre-obesity and class obesity when the BMI was also compared within cases and against controls. Patients reported different degrees of symptom relief as well as a drop in VAS scores and highlighting the extraordinary impact of TENB on SR. This supports what was said earlier.the symptoms of traction. In our investigation, traction with TENB was performed following 20° of anteflexion of the head and neck. According to research, this movement places the lower cervical spine under the most strain, which may help patients with cervical spondylosis who are experiencing nerve root compression.For assessing pain, scores from the VAS are frequently utilised. One of the mainsymptoms of cervical spondylosis, which involves alterations in the cervical vertebra and neck muscles, is neck pain brought on by the compression of a nerve root. According to the results of our clinical investigation, TENB reduced the VAS and scores, indicating a reduction in neck pain. TENB was created primarily to support the head while separating the cervical vertebral bodies and facet joints to reducecervical traction does not significantly improve symptoms, but their sample size in the cervical traction for both neck discomfort and radiculopathy disorders, There will be some distraction between the vertebrae at the apophyseal and intervertebral disc joints as a result of traction, as well as some modest widening of the intervertebral foramina and tensing of the longitudinal ligaments of the spinal column. Stretching the posterior cervical area and enlarging the

interspaces at the intervertebral foramina are the two main goals of employing CT. Isometric neck strengthening exercises were utilised in our study, and we observed a noticeable improvement. This suggests that exercise was crucial in helping to improve the condition. Strength training was reported in certain studies to be fairly useful in reducing pain and increasing function and stiffness in cervical spondylosis [23].

To develop endurance, a carefully graded workout routine is required. A few research have compared the impact of profession on cervical spondylosis development. Farmers and head load bearers both had higher illness incidence rates21. The current investigation found that both homemakers and outdoor workers had illness. Due to the study's location at a Rama hospital, there were no head load carriers in it. In the affected group, there was a strong correlation between longer hours worked and the development of spondylosis. Additionally, a study revealed a link between increasing workload and neck pain?3. there was no correlation between computer use and the disease. Other study found a strong correlation between using a computer and cervical spondylosis [3, 24].

Mobile usage was significantly higher in cases compared to controls, demonstrating its causative role. Cervicalstrengthening: Cervicalflexion, Cervical extension, Cervical side bendingthe forward head posture throws off the cervical spine's normal sagittal alignment, increasing its susceptibility to cervical spondylosis, a degenerative condition. In line with previous study, it was discovered that there was a positive correlation between degenerative changes and age when comparing degenerative changes among spondylosis patients. Later age groups showed the most severe degenerative alterations, whereas younger age groups showed the least degeneration. Exercises that build muscle are We used posture correction techniques in both groups and discovered little improvements in pain and range of motion

CONCLUSION

According to this study, TENB therapy dramatically reduces the curvature of the cervical spine and enlarges the intervertebral foramen, thereby reducing the symptoms of SR. Furthermore, a FE analysis study reveals that simulated traction changes the stress distribution on the facet joints and nucleus pulposus of the cervical spine and widens the spacing between the intervertebral foramen, the intervertebral disc, and the zygapophyseal and uncovertebral joints. This suggests that TENB treatment of CSR may alter the anatomical structure of the cervical vertebra and enhance the biomechanical performance of the cervical vertebra. Angles of traction force in the anteflexion and rear protraction directions shouldn't be greater than 10° when considering the effectiveness and safety of TENB for cervical vertebra. When considered collectively, TENB aids in the therapy of CSR by regulating the structure.

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