

Cervical Neck Pain- A Review

T. Nandhini

BDS students

Saveetha Dental College

Abstract

This review aims to present an overview of the best available evidence on diagnostic procedures for neck pain. Although most spinal conditions are benign and self-limiting, the real challenge to the clinician .The use of valid procedures can assist the clinician in this aim. In the absence of systematic reviews, primary studies are reported. Systematic reviews were identified which evaluated evidence for diagnostic procedures in the following categories: history, physical examination, and special studies, including diagnostic imaging, diagnostic blocks, and facet and sacroiliac joint injections. In general, there is much more evidence on diagnostic procedures for the low back than there is for the neck. With regard to the history, a number of factors can be identified which can assist the clinician in identifying sciatica due to disc herniation or serious pathology. With regard to the physical examination, the straight-leg raise is the only sign consistently reported to be sensitive for sciatica due to disc herniation, but is limited by its low specificity. The diagnostic accuracy of other neurological signs and tests is unclear. Orthopaedic tests of the neck, are useful to rule a radiculopathy in or rule out.. There is strong evidence for the diagnostic accuracy of facet joint blocks in evaluating spinal pain, and moderate evidence for transforaminal epidural injections, as well as sacroiliac joint injections for diagnostic purposes. After back pain, simple neck pain (pain varying over time and with activity) is the most frequent musculoskeletal cause of consultation in primary care worldwide. As with simple back pain, it is multifactorial in origin, reflecting poor posture, muscle strain, sporting and occupational activities as well as psychological factors.

INTRODUCTION

Neck pain is otherwise called as cervicgia. Neck pain or cervical spine pain is attributed to an injury or accident, aging or daily strains. . Cervical spondylosis is chronic cervical disc degeneration with herniation of disc material, calcification and osteophytic outgrowths. Cervical spondylosis undoubtedly contributes to burden, and also cause: Radiculopathy due to compression, stretching or angulation of the cervical nerve roots. Myelopathy due to compression, compromised blood supply or recurring minor trauma to the cord [1]. Neck pain may arise due to muscular tightness in both the neck and upper back, and pinching of the nerves emanating from the vertebrae. All seven cervical vertebrae have a feature that is joint with other vertebrae. Cervical traction can be used to help decrease compressive forces in the neck, which can help take pressure off of the discs between the vertebrae in the neck. Traction can also help stretch the muscles and joint structures around the neck. Cervical traction can be an effective treatment for neck pain and associated neck conditions, like arthritis or disc bulges and herniations. Both cervical manipulation and cervical mobilisation produce similar immediate-, and short-term changes; no long-term data are available [2]. The diagnosis of cervical pain can only be made by using local anaesthesia to block the nerves supplying the painful joint. . As the body ages, spinal degeneration may lead to conditions such as osteoarthritis, spinal stenosis [3] and degenerative disc disease.

RED FLAG FEATURES

Red flag features help to identify the small number of patients who need a investigation in generally weakness in more than one myotome, sensory loss in more than one dermatome, intractable or increasing pain[4]. It may suggest malignancy, infection or inflammation that includes fever, night sweat, weight loss, inflammatory arthritis, myelopathy and Lhermitte's sign. Sensory changes are variable, with loss of vibration and joint position sense

seen more clearly in the hands than in the feet. Other features include risk for osteoporosis, dizziness when moving the neck, and drop attacks[5].

CERVICAL LINEAR TRACTION NECK PILLOW

Wake up free of neck and muscle pain because pressure is relieved when head and neck are supported correctly .Experience deep sound sleep because body relaxes. Breathe easier and reduce snoring because air passage is unrestricted .Enhance Circulation because blood flows better through relaxed muscles. Enjoy better posture because spine is aligned in a natural way. There are many different ways to apply cervical traction to the neck such as manual cervical traction is performed by physiotherapist, who holds neck and head and then gently provides traction, or pulling, force to neck. Rhythmic periods of pulling and resting are usually applied, with each position being held for up to 10 seconds. Mechanical cervical traction involves using a harness that attaches to head and neck while lying down on back. The harness is attached to a machine that can provide a traction force, and the machine has a control panel so that physiotherapist can change the amount of force applied to neck [6]. Over-the-door traction can be used at home and involves strapping a harness to head and neck while sitting in a chair. The harness is attached to a rope and traction force is applied using weights, a sand bag, or a water bag that's attached to the opposite end of the rope.

MUSCLES OF NECK

Posterior cervical muscles include Splenius capitis arises on the ligamentum nuchae and spinous processes of C7 to T3 and attaches under the lateral part of the superior nuchal line of the occiput and on the mastoid process of the temporal bone. Splenius cervicis arises on the spinous processes of T3 to T6 and attach on the posterior tubercles of the transverse process C1 to T3. Splenius capitis and splenius cervicis lie deep to sternocleidomastoid, trapezius and the rhomboids and superficial to the segmental

muscles, interspinales, intertransversarii and transverse spinalis. Semispinalis thoracis arises on the transverse processes of T6 to T10 and attaches on the spinous processes of C6 to T4. More tendons in form. Semispinalis cervicis arises on the transverse processes of T1 to T6 and attaches on the spinous processes of C2 to C5. More muscular especially the fibres that attach on the axis. Semispinalis capitis arises on the transverse processes of C7 to T6 and the articular processes of C4 to C6 (sometimes C7 & T1) and attaches either side of the mid-sagittal line between the superior and inferior nuchal lines on the occiput. Rotators are the deepest muscles. They arise on cervical, thoracic and lumbar transverse processes and attach on the lamina and base of the spinous process of the vertebra above. Interspinales run from one spinous process to the spinous process above. They are present between C2 and T3, and between T11 and L5. They are more distinct in the cervical spine Nerve supply: Dorsal rami of thoracic, cervical and spinal nerves

CAUSES

Major causes of neck pain include carotid artery dissection, acute coronary syndrome, head and neck cancer, retropharyngeal abscess, epiglottitis, [7]. Spinal disc herniation, spondylosis - degenerative arthritis and osteophytes spinal stenosis, lesser neck pain causes physical and emotional stress postures many people fall asleep on sofas and chairs and wake up with sore necks. Muscular strain is one of the most common causes whiplash, herniated disc [8]. More causes include poor sleeping posture, torticollis, head injury, rheumatoid arthritis, Carotidynia, congenital cervical rib, mononucleosis, rubella, certain cancers, cervical spine fracture, oesophageal trauma, subarachnoid haemorrhage, lymphadenitis, thyroid trauma, and tracheal trauma.

SYMPTOMS AND CONSERVATIVE TREATMENT

Symptoms of cervical back pain include referred pain (occipital, between the shoulder blades, upper limbs), retro-orbital or temporal pain (from C1 to C2), cervical stiffness, tingling or weakness in upper limbs, poor balance. Minor neurological changes like inverted supinator jerks, poorly localised tenderness. Neck movement may be restricted. The most commonly affected nerve roots are between the C5 to C7 levels. Sensory symptoms (shooting pains, numbness) are more common than weakness. Other symptoms are reflexes are diminished at the appropriate level (biceps - C5/C6, supinator - C5/C6, or triceps - C7). Treatment include exercise plus joint mobilization and joint manipulation (spinal adjustment) has been found in both acute and chronic mechanical neck disorders [9]. Thoracic manipulation may also improve pain and function [9][10]. Low level laser therapy has to reduce pain immediately after treatment in acute neck pain and up to 22 weeks after completion of treatment in patients with chronic neck pain [11].

EXERCISE

Roll shoulders forward in circular movement. Relax and then roll shoulders backwards (reversing the

movement). Supine neutral head position is one of the exercise which enable us to establish and maintain the neutral head position while resting. Supine retraction while lying on back with head in neutral position, place the fingers on chin and push downward

so chin tucks and head is pushed downward into its resting surface. Be sure to feel a stretch in the back of neck and a sense of "crowding" in the front of neck. Repeat that stretch 8-10 times while monitoring the pain is for either improvement or worsening. Sitting or standing neck retraction exercise often reduces or eliminates pain by taking head as far backward as possible, often well past the "neutral" position as explained in supine neutral position. Place the fingers in the front of chin to help push the head backward as far as it will go, but maintain the face in a forward-direction and again feel a stretch in the back of the neck and a sense of "crowding" throat in front. Hold that "retracted" stretching position for 1-2 seconds and then release, allowing the head to return to neutral. Repeat that movement 8-10 times and perform 3-4 such sessions each day, until finding it is reducing the pain. Often, as pain reduces, the head will retract further and further backward, making the exercise more beneficial. Even after pain is eliminated, continue this exercise 3-4 times daily for another two weeks to help prevent the pain from returning, or return to it any time the pain. Neck rotation while sitting or standing with head and neck in neutral position slowly turns your head to the left as far as you comfortably can and hold for five seconds. Similarly, slowly turn the head to the right and hold for 5 seconds. Perform one set of 5 repetitions each direction, twice a day. Exercising neck is a very good thing to do, whether having pain or wishing to avoid it. Good neck care includes pain-relieving exercises that also help restore full neck movement, attention to head and neck posture, followed by moderate strengthening. These techniques can help recover and provide good defences against future symptoms.

PROGNOSIS

Cervical spondylosis progresses slowly. It is a chronic joint disability, especially when it is associated with neuronal compression. However, most with acute neck pain do well. About one-half of episodes resolve within one year. About 10% of cases become chronic

CONCLUSION

In conclusion, during the history, the clinician can accurately identify sciatica due to disc herniation, as well as serious pathology. There is sufficient evidence regarding the accuracy of specific tests for identifying sciatica or radiculopathy (such as the straight-leg raise) or certain orthopaedic tests of the neck. Plain spinal radiography in combination with standard laboratory tests is useful for identifying pathology, but is not advisable for non-specific neck or low-back pain.

REFERENCE

1. Jump up to:^{a b c} Binder AI (2007). "Cervical spondylosis and neck pain". *BMJ* 334 (7592):52731.doi:10.1136/bmj.39127.608299.80. PMC 18 19511. PMID 17347239

2. Jump up^ "BestBets: Manipulation and/or exercise for neck pain?"
3. Bajwa NS, Toy JO, Ahn NU; Is congenital bony stenosis of the cervical spine associated with congenital bony stenosis of the thoracic spine? An anatomic study of 1072 human cadaveric specimens. *J Spinal Disord Tech.* 2013 Feb;26(1):E1-5. doi: 10.1097/BSD.0b013e3182694320.
4. Neck pain - cervical radiculopathy; NICE CKS, January 2009
5. Binder AI; Cervical spondylosis and neck pain. *BMJ.* 2007 Mar 10;334(7592):527-31.
6. Graham N, Gross A, Goldsmith CH, et al; Mechanical traction for neck pain with or without radiculopathy. *Cochrane Database Syst Rev.* 2008 Jul 16; (3):CD006408.
7. Jump up^ Amal Mattu; Deepi Goyal; Barrett, Jeffrey W.; Joshua Broder; DeAngelis, Michael; Peter Deblieux; Gus M. Garmel; Richard Harrigan; David Karras; Anita L'Italien; David Manthey (2007).*Emergency medicine: avoiding the pitfalls and improving the outcomes.* Malden, Mass: Blackwell Pub./BMJ Books. p. 47. ISBN 1-4051-4166-2.
8. Jump up^ Dr. Kevin Yip (2009). *A Guide to Common Orthopaedic Problems.* Singapore, Mass: Singapore Sports and Orthopaedic Clinic. p. 180. ISBN 1-4051-4166-2. ^
9. Gross AR (2010). "Manipulation or mobilisation for neck pain". *Cochrane database of systematic reviews (Online)* (1): CD004249. doi:10.1002/14651858.CD004249.pub3.PMID 20091561.
10. Jump up^ Huisman PA, Speksnijder CM, de Wijer A (January 2013). "The effect of thoracic spine manipulation on pain and disability in patients with non-specific neck pain: a systematic review.". *DisabilRehabil.* doi:10.3109/09638288.2012.750689. PMID 23339721.
11. Jump up^ Chow RT, Johnson MI, Lopes-Martins RA, Bjordal JM (2009). "Efficacy of low-level laser therapy in the management of neck pain: a systematic review and meta-analysis of randomised placebo or active-treatment controlled trials". *Lancet* 374 (9705): 1897–1908.doi:10.1016/S0140-6736(09)61522-1 PMID 19913903