

Chiropractic Multimodal Therapeutic Protocol for Degenerative Spondylotic Myelopathy and Myelomalacia: Case series

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Purpose and Background

Cervical spondylopathy is a relatively common spinal degenerative condition, which theoretically, if not addressed therapeutically early in life, is said to be advanced onto cervical osteophytosis of the vertebral end-plates result in shearing forces exerted on the cervical spine, its inter-vertebral discs and the anterior borders of the spinal cord based on the person's cervical spine posture (cervico-thoracic hump), head carriage angle and the directions of shearing forces exist. It was found that if occurs long enough, it may damage the anterior and radicular spinal arteries leading to myelopathy and myelomalacia. These in turn can result the Anterior Cord Syndrome in acute injuries and the Central Cord Syndrome in the chronic.

Previous Chiropractic manipulative guidelines (MERCY 93) had indicated these cases as an absolute contraindication for SMT. However, recent chiropractic research studies and the updated guidelines (Bone and Joint Decade 2010, CCA-CFCRB_CPG) show promising results and change the current guidelines as Relative Contra-indication pertaining there is no rapid neurological deterioration. This series confirms the guides

Methods

Treatment protocol was based on a Full-Spine approach, beginning with pathological reflexes monitoring such as Hoffman's and Reversed Radial, muscle testing specifically Fingers Adductors and Abd with the concomitant regular Ortho/Neuro exam. Tx commenced by a standing A to P SMT to the T2-7 to induce normal alignment and kyphosis.

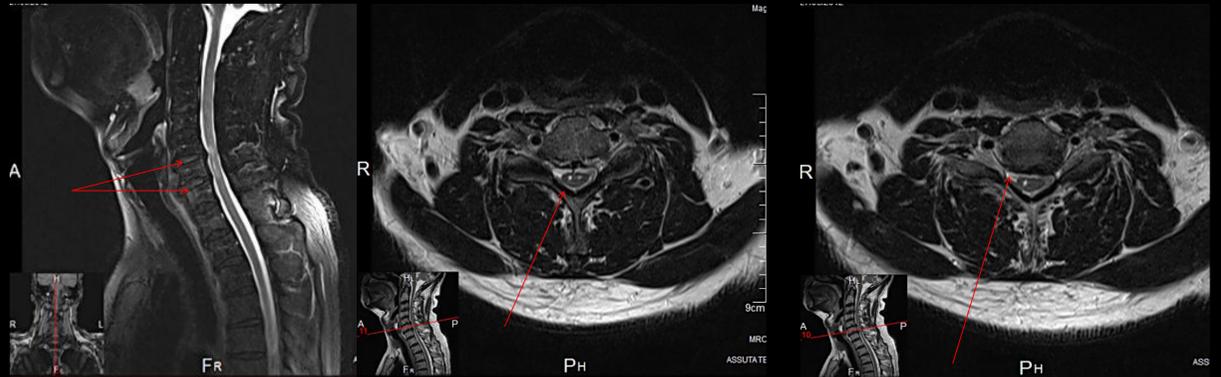
Pelvic leveling prone, Cox F-D to release any contracture in the L/S, T/L that may affect the upper back and neck, L/S SMT

Supine gentle Stair-Step stretch to patient comfort, Myofascial release of all neck compartments, Cervical Diversified SMT below and above the involved segments in the acute phase, later with symptoms and reflexes and muscles improvements, at the involved segments as well, Prone Shoulder and neck retractions combined with heat and patient education as for their exercises and stretches at home and at work All interventions were in parallel to their medical analgesic and anti-inflammatory care as needed.

Case 1

A 62-year-old man Hi-Tech CEO presented with a moderate to severe bilateral neck pain which radiates to the medial and lateral shoulder blades of five weeks duration. The pain extended down from the neck to the dorsal spine to the level of the scapulae angles and to the superior aspect of both scapulae. He complained of discomfort and numbness over the 2nd and 3rd right fingers which are exacerbated with head flexion or head forward position, tension at work or in life and more in seated position than standing. At the 3rd visit, the patient was pain free in both scapulae and dorsal spine during the day, but had intermittent short neck pain episode at night when he was rolling over in bed. He was treated 4 more visits before

Entering supportive care of once a month.



C-Spine Lateral T2 MRI shows C5-6-7 degenerative and discopathic myelomalacia

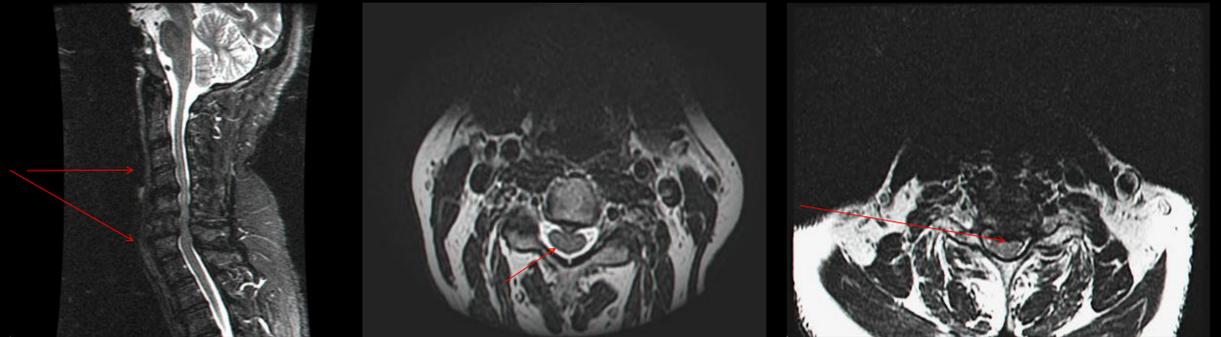
C5-6 axial T2 MRI shows Snake-Eyes sign confirm Myelomalacia (MM) in the cord

C6-7 Axial T2 MRI shows a single Snake-Eye

Case 2

A 54-year-old elementary school teacher in her past and currently, a 10 years ceramic artist female was referred to our clinic by her Pain specialist and a Neurosurgeon after refusing to receive a selective nerve root block to her neck. She complained on 8 months duration of an on-going central and left neck and upper back pain with an intermittent pain of sharp quality, dull or burning sensation accompanied by slow progressing numbness and weakness of her Left hand fingers over the past week. Her weakness was noticeable by her especially in grasping, holding and handling objects during her activities of daily living (ADL) and at her ceramic studio. The patient had received 10 treatments over a period of 10 weeks. For the first 3 weeks of treatment plan, the frequency was twice a week.

In this stage, the goal was to reduce the symptoms, improved ranges of motion and address her barriers to recovery. At her 2nd visit, there were mild improvements in pain and numbness in her left hand strength of 3/5, and remarkably, the Hoffman's and reversed - radial reflexes were negative!



C-Spine Sagittal T2 STIRR technique C3-7

C3-4 Axial T2 MRI – Focal herniation and myelomalacia

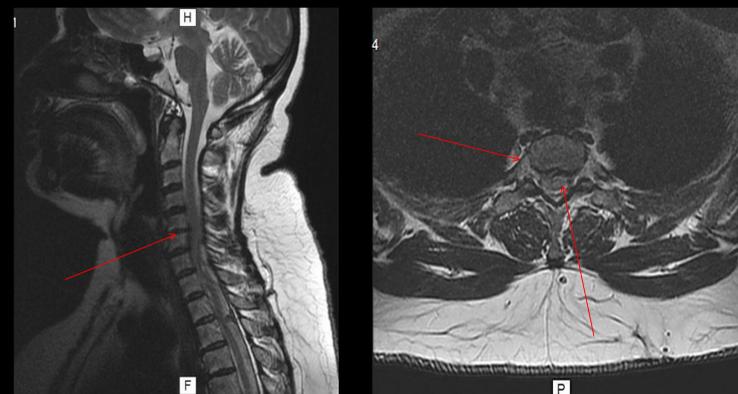
C6-7 Axial T2 –Osteophytic Bar & Myelomalacia

Case 3

A 54-year-old mother to 5 children who works for the past 30 years as an elementary school teacher complained on suffering for months from neck, right shoulder, arm and forearm pain and numbness. She described an on-going pain with an intermittent pain quality of sharp, dull or burning sensation accompanied by progressing numbness and weakness of her right arm and forearm over the past weeks. Her weakness was noticeable by her especially while writing on the classroom board in addition to grasping, holding and handling. The patient has been treated for 9 times over a period of 8 weeks. By her 2nd visit, there were mild improvements in pain but not in numbness, in her C7 reflexes. At her 5th visit, all hands- muscle test s were normal 5/5, and she was almost pain free aside from mild numbness and discomfort in her right arm and forearm. By her 9th visit, the pain-free improvement continued in the hand and neck but her numbness remained. She was placed on a schedule of twice a month to once a month as supportive care. She was advised to consult

A Pain specialist and a neurosurgeon in order to explore additional therapeutic options.

She reports of having good night sleep, adhering to daily routine prescribed exercises, stretches, ergonomics and prevention.



Sagittal T2 MRI- C5-6-7 myelopathies due to Degenerative Discopathies & reversed lordosis

Axial T2 MRI- C5-6 R posteromedial herniation and myelomalacia

Conclusions

Although its small size, this series confirms other recent researchers that chiropractic cervical spine SMT can benefit the suffering patients by combining multimodal therapeutic interventions and inspection. They also confirm the latest updated chiropractic guidelines for neck disorders. Further large scale cohort studies are called upon

References

1-22; Hoff, J., et al, "The role of ischemia in the pathogenesis of cervical spondylotic myelopathy - a review and new micro-angiographic evidence", Spine, Vol. 2, No. 2, 197; 7Cook C et al.: Clustered clinical findings for diagnosis of cervical spine myelopathy. J Man Manip Ther. 2010 Dec;18(4):175-80; Mizuno, H Nakagawa, H-S Chang1 and Y Hashizume2: Postmortem study of the spinal cord showing snake-eyes appearance due to damage by ossification of the posterior longitudinal ligament and kyphotic deformity Spinal Cord (2005) 43, 503-507, doi:10.1038/sj.sc.3101727; published online 8 March 2000; ; Murphy DR, Hurwitz EL, Gregory AA: Manipulation in the presence of cervical spinal cord compression: a case series. J Manip Physiology Ther. 2006 Mar Apr; 29(3):236-44; Dufton JA, BSc, Giannomaso T.: The chiropractic management of two cases of cervical spondylotic radiculopathy. J Can Chiropr Assoc 2003; 47(2) 121-26; Browder DA, Erhard RE, Piva SR: Intermittent cervical traction and thoracic manipulation for management of mild cervical compressive myelopathy attributed to cervical herniated disc: a case series. J Orthop Sports Phys Ther. 2004 Nov;34(11):701-; additional references would appear in JIMPT2.

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