Cervical Case

The patient is a 50-year-old male office worker with a chief complaint of neck pain and stiffness that began approximately 2 weeks ago without a known mechanism of injury. Pain is reported as a dull ache with an intensity between 2-6/10. Symptoms occasionally radiate to his right shoulder and down his arm and he also notes intermittent numbness in his right hand, particularly in the thumb and index finger. He reports a history of occasional headaches, described mostly as pressure, but over the past 2 weeks his headache has been more consistent. His symptoms are aggravated with neck movements in all directions and sustained sitting at work. Symptoms often become worse as the day progresses. He denies any trauma, history of cancer, weight loss, or night pain. He does have a history of hypertension and smoking. He has tried to quit multiple times over the past 10 years and while unsuccessful at quitting, he has significantly reduced usage which is currently about 1 pack a month. He reports limited exercise tolerance, and has occasional shortness of breath, especially with walking up hill. The patient states his physician ordered x-rays of his neck which showed degeneration. The physician also wanted to order an MRI, but the patient declined at this time due to financial restraints.

Upon physical examination you note the following:

- Posture: Slight forward head posture
- Range of Motion: Cervical flexion, extension, left rotation and left sidebending active range of motion are each limited approximately 25%. Passive range is equal to active range for these movements. Right rotation and sidebending to are limited actively about 50% however passively there is only a 25% limitation.
- Neurological Examination:
    - Strength: 5/5 in upper extremities
    - Sensation: Decreased to light touch in C6 distribution (thumb and index finger)
    - Reflexes: Biceps and triceps deep tendon reflexes are intact
- Palpation: Tenderness noted in the cervical paraspinal muscles and upper trapezius on the right side which recreates the patient's headache complaints.
- Joint Accessory Motion Testing: Unilateral posterior-anterior (UPA) pressure on the right recreates pain between C3-7 and hypomobility is noted between C5-7. The patient's tingling sensation in the right thumb is recreated with UPA testing on the right.
    - Flexion rotation test: Normal and symmetrical without reproduction of headache
    - C0-1 UPA: Normal motion, did not reproduce headache
- Upper Limb Tension Test (ULTT), median nerve bias: unremarkable for reproduction of patient symptoms

1. Based on the available case information, what is the most likely diagnosis?

a. C6 radiculopathy.
b. Neck pain with radiating pain without radiculopathy.
c. Neck pain with headaches.
d. Adverse median nerve dynamics.

The best answer is b. Neck pain with radiating pain. There are no clinical signs of radiculopathy (normal DTR and myotomes, as well as normal ULTTA). The patient does report a headache, however this is not the primary symptom, and was reproduced more with myofascial palpation than joint testing of the upper cervical spine. Sensation down into the thumb/index finger does track the median nerve distribution, however a normal ULTT is highly sensitive for radiculopathy. Cervical joint accessory motion testing also reproduced the parasthesias, making neck pain with radiating pain the best answer in this case.

2. What would the most appropriate initial treatment be for this patient at this time?
   a. Exercises to mobilize (cervical snags) and stabilize (cervical isometrics).
   b. Thoracic joint mobilization.
   c. Mechanical traction.
   d. No treatment- patient needs to be referred out to get cervical MRI before initiating treatment.

The best answer is a. According to the neck pain CPG for acute/subacute neck pain with radiating pain, performing exercises to stabilize and mobilize are preferred interventions. If symptoms progress to become more chronic, combined exercises and manual therapy are suggested. Thoracic manual therapy can be effective for neck pain, but these studies are primarily related to manipulation as compared to mobilization. Also, there is no evidence of thoracic joint impairment based on the presented data. Traction has stronger supportive evidence should this patient's presentation become chronic, as compared to acute. and there are currently no contraindications to treatment at this time

3. The patient returns for follow up 2 weeks afterwards, reporting consistent performance of his home exercise program and some improvement of symptoms. As his symptoms improved he also returned to seeing his chiropractor whom he has worked with for years. He has a long history of receiving cervical manipulations as part of his treatments; however, after this last session 2 days ago he reports "not feeling right". Normally he reports pain relief, but this time he reports a "different headache then before, more intense and lingering". He also reports feeling very run down. He has tried sleeping more thinking that would help but it has not. What is the most appropriate plan of action at this time?
   a. Continue with planned treatment session while monitoring vitals.
   b. Perform HVLA to cervical spine.
   c. Refer patient to ER for assessment of possible vascular incident.
   d. Add in addition of aerobic training.

The best answer in this case is c. The patient is having a possible vascular incident. He has a history of smoking and hypertension, and is over 50, which are risk factors. He reports a headache he has not had before and being fatigued/lethargic. While assessment of vitals is important, continuing with the same treatment plan in spite of new symptoms is not ideal. Although previous manipulations have been helpful, the new symptoms may be correlated to manipulation, and that

intervention should be held until symptoms are resolved. While aerobic exercise is important for general health, and has hypoalgesic effects, putting more strain on the cardiorespiratory system during a potential vascular injury could be harmful. Given the new symptoms and risk factors associated with a vascular injury, the best plan at this time is to seek immediate medical attention.