EVIDENCE-BASED GUIDELINE FOR PHYSICAL THERAPY MANAGEMENT OF CERVICOGENIC DIZZINESS

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Dizziness is a non-specific symptom that is commonly encountered by primary health care practitioners, and the prevalence has been reported to be between 11.1% and 28.9% (1). It can be described as faintness, unsteadiness, perception of spinning and disorientation. It is not uncommon for patients experiencing dizziness to have more than one diagnosis. Dizziness is commonly seen in whiplash patients, affecting 20-58% of individuals with flexion-extension injuries (8). One specific type of dizziness is cervicogenic dizziness, which is a diagnosis by exclusion (8). Symptoms can include dizziness, vertigo, disequilibrium, nausea, emesis, lightheadedness, headache, upper extremity symptom referral, thoracic chest symptom referral, rib symptom referral and symptoms of autonomic instability.

It has been suggested that the management of cervicogenic dizziness should be the same as for cervical pain and should include manual therapy, patient education and sensorimotor exercises. A specific type of spinal mobilization known as sustained natural apophyseal glides (SNAGs) has been shown to demonstrate improvement in dizziness severity and frequency, lower scores on the Dizziness Handicap Inventory (DHI), and decreased neck pain. There is also evidence to support manual therapy combined with vestibular rehabilitation to be effective in the treatment of cervicogenic dizziness (16).

Proposed caused mechanisms include: Efferent signals from cervical trigeminal nucleus, proprioceptive disorder of the cervical afferents (5), vascular compromise of vertebrobasilar system (2), bidirectional neural networks between cervical spine ganglia and sympathetic ganglia, (3) stimulation of sympathetic fibers in posterior longitudinal ligament adjacent to degenerated joints of the cervical spine, and (20) abnormal cervical afferent input mismatching normal vestibular information. (3)

Suggested objective testing

- Seated cervical rotation test. Body rotation with head fixed. This will stimulate the neck nociceptors but not activate the vestibular system. Symptom reproduction with nystagmus indicates a positive test. Test is inadequately described in research and has poor specificity. This test is described at https://www.sralab.org/rehabilitation-measures/seated-cervical-rotation-test (22)
- Neck ROM: Limited neck ROM may indicate involvement of the cervical spine especially if associated with the production of symptoms.
- Posture: Poor postural habits may indicate involvement of the cervical spine.
- Limited joint mobility of the neck to accessory testing may indicate involvement of the cervical spine.
- Joint position error. This test is described at https://www.sralab.org/rehabilitation-measures/cervical-joint-position-error-test (21)
- Scapula dyskinesia and shoulder pain could point to involvement of the cervical spine.
- Sleep disorders because of neck pain can indicate involvement of the neck.
- Answering yes to questions number 1, 9 and 11 on the Dizziness Handicap Inventory (DHI) were the most statistically significant to suggest a diagnosis of cervicogenic dizziness (14).

Suggested Intervention

- Therapeutic exercises
    - Deep neck flexor strengthening
        - Can begin with retraction without lift to active the deep neck flexors
        - Progress to retraction with lift
        - Progress to light weight or resistance with lift
    - Cervical and scapular stabilization
        - Ex: prone cervical/scapular retraction, resisted 4-way step out with band vs head, dynamic cervical stabilization vs the wall can include retraction with military press, skull crushers, anterior and middle deltoid raises, Houston scapular progression with resistance bands or free weights
    - Postural re-education including proprioceptive feedback from laser/head lamp

- Manual therapy/modalities (3)
    - Modalities for pain or prior to manual therapy if needed
    - Manual stretching, joint mobilization can include lateral and PA glides to improve upper and lower cervical mobility
- Patient education (11)
    - For best neck position of relief in sitting and standing.
        - Work station design for elbows at 90 degrees with scapular and cervical retraction
        - Possible use of standing desk
        - Frequent breaks from computer for stretching
        - Use of document holder
        - Head set if frequent use of phone (1/3 of the day or >)
    - For best position of relief for sleep.
        - Refrain from sleeping on stomach
        - Utilize pillow that maintains neutral cervical spine in side lying or supine
        - Recommend pillow between hips and knees if side lying
    - Regarding pathophysiology and expected time to recovery.
        - Gradual reduction in sxs over the course of 6-8 weeks

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