Cervicogenic Headache

Description
Cervicogenic headaches (CEH) are head and/or face pain that originates from the cervical spine. These headaches occur due to a disruption or injury within the upper cervical spine that affects the area of convergence between the trigeminal, spinal accessory, and cervical afferents.

Relevant Anatomy
- Trigeminal nerve
  - Motor: controls muscles of mastication
  - Sensory: V1, V2, V3
  - Cervicogenic pain seems to radiate down these sensory pathways
- Spinal Accessory Nerve
  - Motor: innervates sternocleidomastoid and trapezius

Fun Facts
- Individuals with cervicogenic headaches tend to have increased tightness and trigger points in upper trapezius, sternocleidomastoid, levator scapulæ, scalenes, pectoralis major and minor, and suboccipital extensors
- 44% of individuals with cervicogenic headaches also have TMD
  - This correlation is probably due to the interconnectedness between the trigeminal nerve (which controls muscles of mastication) and the cervical nerves.

Signs/Symptoms
- Decreased cervical ROM
- Pain aggravated by neck movements
- Sensitivity/tenderness of cervical musculature
- Blockade to cervical structure or nerve supply eliminates headache
- History of neck injury/disorder
- **Flexion rotation test**: objective method to determine CEH vs. migraine- sensitivity: 91%; specificity: 90%

Common Triggers
- Poor posture
- Sleeping habits
- Carrying heavy items on one shoulder
- Poorly designed workstations
- Sitting in chairs or car seats for a prolonged period of time
- Trauma/whiplash

Differential Diagnosis
- Migraines, tension type headache cervical instability, intracranial pathology, etc.
Patient Case
- 29 yr old male
- Pt presented to PT with 4/10 neck pain with headaches for ~ 2 weeks
- Pt states it started one evening after doing a lot of work at a computer
- Pt works in IT and is at a desk all day
- Pt prescribed medication which helped
- Reports still experiencing neck pain and headache towards the end of the day and after working for several hours
- Pt denies any UE radicular symptoms

Objective Exam
- Forward head with extreme upper cervical flexion, round shoulders (upper crossed syndrome)
- UE ROM: WFL bilaterally; UE strength 5/5
- Tightness noted of upper cervical spine
- Palpation: trigger points along UT and LS L>R
- Spurlings: negative; Distraction: “feels good”

Cervical AROM | Range of motion (in degrees)
---|---
Flexion | 40
Extension | 38
Right Rotation | 65
Left Rotation | 62
Right Sidebending | 25
Left Sidebending | 40

HEP
Initial HEP: cervical retractions (2x12 & hold for 3 sec BID), LS stretch (30 sec hold BID)
Progressed HEP: car seat resisted retractions (2x12 & hold for 3 sec BID), RTB resisted rows (2x12 BID) LS and UT stretch (30 sec hold BID), Mulligan Headache SNAG (sustained natural apophyseal glide)

Treatment
- Postural education
- 5 min upper body ergometer warm up -cycling backwards
  - Initially 2x15 → progressed to 3x15 for the following exercises:
    - Theraband resisted rows (progressed to rows on BACTA), external rotation, horizontal abduction, extension
    - Cervical retractions
  - Mulligan Cervical Rotation SNAG
  - 2 min supine pec stretch on half foam roller
  - STM to cervical musculature, grade 1 and 2 cervical mobilizations, occipital release, cervical distraction

Why does the suboccipital release work?
- Physical trauma and stress lead to restricted fascia and motion at C1 C2
- Many pts with upper crossed syndrome may experience this restricted motion as well
- The suboccipital release helps to soften fascia in the suboccipital area and open space between C1 and C2
Research

Exercise vs. Manipulative Therapy vs. Combined
- Manipulative therapy and low load exercise when used alone and in combination significantly reduce headache frequency, intensity, and neck pain index immediately after treatment as compared to controls; these effects were maintained at 12 month follow up
  - Endurance exercises targeted deep cervical flexors and scapular stabilizers
- Combined manipulative therapy and exercise reduced headache duration more than manipulative therapy and exercise alone.
- Conclusion: manipulative therapy and exercise can reduce symptoms of cervicogenic headaches and these effects are maintained.

Cervical/Thoracic Manipulation vs. Mobilization and Exercise
- Conclusion: 6-8 sessions of cervical and thoracic manipulation produced greater reductions in headache intensity and disability than mobilization and exercise
  - Note: spine manipulations require a physician prescription in NC

Bibliography


