# Cervicogenic Headaches

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# IHS DIAGNOSIS

- Description:

  Headache caused by a disorder of the cervical spine and its component bony, disc and/or soft tissue elements, usually but not invariably accompanied by neck pain.

- 47% of the global population suffers from a headache
- 15% CGH
- Females seem more predisposed to CGHs - 4 times

# Red flag symptoms

- Headaches that are getting worse over time
- Sudden onset of severe headache
- Headaches associated with high fever, stiff neck, or rash
- Onset of headache after head injury
- Problems with vision or profound dizziness

# Pathophysiology

Convergence of sensory input from the upper cervical spine into the trigeminal spinal nucleus

- Upper cervical facets
- Upper cervical muscles
- C2-3 intervertebral disc
- Vertebral and internal carotid arteries
- Dura mater of the upper spinal cord
- Posterior cranial fossa

# Major criteria of cervicogenic headache

(I) Symptoms and signs of neck involvement:

- (a) precipitation of head pain, similar to the usually occurring one:
  - (1) by neck movement and/or sustained awkward head positioning, and/or:
  - (2) by external pressure over the upper cervical or occipital region on the symptomatic side
- (b) restriction of the range of motion (ROM) in the neck
- (c) ipsilateral neck, shoulder, or arm pain of a rather vague nonradicular nature or, occasionally, arm pain of a radicular nature.

(II) Confirmatory evidence by diagnostic anaesthetic blockades.

(III) Unilaterality of the head pain, without sideshift.

# Diagnostic criteria: International Headache Society 2018

A. Any headache fulfilling criterion C

B. Clinical and/or imaging evidence of a disorder/lesion within the cervical spine or soft tissues of the neck, known to be able to cause headache

C. Evidence of causation demonstrated by at least two of the following:

1. headache has developed in temporal relation to the onset of the cervical disorder or appearance of the lesion
2. headache has significantly improved or resolved in parallel with improvement in or resolution of the cervical disorder/lesion
3. cervical range of motion is reduced and headache is made significantly worse by provocative manœuvres
4. headache is abolished following diagnostic blockade of a cervical structure or its nerve supply

D. Not better accounted for by another ICHD-3 diagnosis.

# Clinical characteristics

- Unilateral head or face pain without sideshift; the pain may occasionally be bilateral
- Pain localized to the occipital, frontal, temporal, or orbital
- Moderate-to-severe pain intensity
- Intermittent attacks of pain lasting hours - days, constant pain or constant pain with superimposed attacks of pain
- Pain is generally deep and non-throbbing in character;
- Head pain is triggered by neck movement, sustained or awkward neck postures; digital pressure to the suboccipital, C2, C3, or C4 regions or over the greater occipital nerve; valsalva, cough, or sneeze might also trigger pain
- Restricted active and passive neck range of motion; neck stiffness
- Associated signs and symptoms can be similar to typical migraine accompaniments

# Differentials

- posterior fossa tumour,
- Arnold-Chiari malformation,
- cervical spondylosis or arthropathy,
- herniated intervertebral disc,
- spinal nerve compression or tumour,
- arteriovenous malformation,
- Vertebral artery dissection, and
- intramedullary or extramedullary spinal tumours

# Occipital neuralgia

- pain that is isolated to sensory fields of the greater or lesser occipital nerves
- pain that is isolated to sensory fields of the greater or lesser occipital nerves
- Numbness
- Paraesthesias usually present

# Treatment

- multifaceted approach using
    - pharmacological,
    - non-pharmacological,
    - manipulative,
    - anaesthetic, and
    - occasionally, surgical interventions

Pharmacological

- tricyclic antidepressants - amitriptyline,nortriptyline
- antiepileptic drugs (gabapentin, carbamazepine, topiramate, valproate)
- muscle relaxants (tizanidine, baclofen)
- nonsteroidal
  - nonselective COX inhibitors (indomethacin, ibuprofen, naproxen)
  - COX-2 selective inhibitor (celecoxib)

Non-pharmacological

- manipulative or manual therapies
- physical therapy
- transcutaneous electrical nerve stimulation (TENS)
- biofeedback/relaxation therapies
- individual psychotherapy

- Interventional
- anaesthetic blockade
  - spinal roots, nerves, rami, or branches
  - zygapophyseal joints
  - muscular trigger points
- neurolytic procedure
  - radiofrequency thermal neurolysis
- botulinum toxin injections
- occipital nerve stimulator

Surgical

- neurectomy
- dorsal rhizotomy
- microvascular decompression
- nerve exploration and “release”
- zygapophyseal joint fusion

# Thank You