

## Cervicogenic Headache After Whiplash Injury

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Monica Drottning, MD

THIS AUTHOR NOTES:

There is a marked increase in headache after whiplash crashes.

“The triad neck pain, stiffness in the neck and headache, I considered typical for the acute whiplash syndrome.”

Headache originating in the neck is termed cervicogenic headache (CEH) since 1983. [Sjaastad O, Saunte C, Hovdahl H, *et al.*: Cervicogenic headache: a hypothesis. *Cephalalgia* 1983, 3:249–256.]

CEH has been accepted by the International Association for Study of Pain in 1994.

The usual criteria for CEH a unilateral headache.

“The possibility exists that there is a post-whiplash bilateral CEH.” **[IMPORTANT]**

The prospective Oslo study is the first and only study that has brought into focus the putative presence and development of CEH in a whiplash population [Drottning M, Staff PH, Sjaastad O: Cervicogenic headache (CEH) after whiplash injury. *Cephalalgia* 2002, 22:165–171. Cohort study of 587 patients seeking the Emergency Service in Oslo, Norway after injury. This is the only study describing CEH in a whiplash population].

Commonly, post-whiplash (CEH) has pain radiating from the neck to the forehead.

“Post-whiplash CEH typically is a moderate headache with a benign, but often prolonged course.” It can be unilateral or bilateral.

“Post-whiplash CEH is accompanied by great disability and high use of medication.”

CEH was found in 8% of post-whiplash patients at 6 weeks and in 3% at 1 year.

“None of the patients seemed to have had a preexisting headache similar to CEH.”

“The number of patients with CEH after whiplash injury probably would have been much higher if a less-strict definition was used and if that definition included bilateral CEH.”

"A relatively high proportion of patients with CEH had been involved in a previous car accident and there was a significantly higher frequency of nonspecified headache and neck pain before the accident among patients with CEH. This may indicate that there is an inherent neck vulnerability at the time of injury and an acquired propensity to headache generation after injury."

"In 17 of 20 patients (85%) with CEH at 1 year, there had been rear-end collisions."

In cervicogenic headache, "the head pain radiated from the neck to the forehead and often into the eye."

"On pain drawings, patients used a line rather than filling in the whole area of the head."

"Static neck position (flexion, rotation, extension, and awkward positioning of the head during sleep) was more common than sudden neck movements for eliciting the headache."

The cervicogenic headache was not associated with disturbance of vision such as in migraine, but some patients described a type of blurred vision and focus problems on the same side as the headache."

When the patient underwent occipital nerve blocks, the headache went away quickly.

"The pain was described as non-pulsating and, most often, intermittent."

Some patients experienced dizziness, and dizziness is an integral criterion of CEH. [Recall, upper cervical afferents synapse in the vestibular nucleus].

On a visual analog scale (0-10), the headache intensity was rather constant: 5.5 at 6 weeks, 5.5 at 6 months, and 5.2 at 1 year.

"Of the patients with chronic CEH, 45% initially reported interscapular pain, 30% reported pain radiating to the shoulders, and 10% reported diffuse pain/paresthesia more distally in the arms; however, none of the patients reported pain radiating to the C6, C7, or C8 distribution areas."

Cervicogenic headache patients had a higher frequency of local pain in the neck in response to Spurling's test.

Radiation of pain to the forehead in response to pressure over the greater occipital nerves and minor occipital nerves was present in 50% of CEH patients at 1 year. "Such provoked pain is one of the cardinal features of CEH."

"The clinical examination in patients with CEH should include a relevant neurologic examination, neck examination, provocative tests (eg, Spurling's test), stretching of neck muscles to elicit pain, and identification of tender points (temporal area, jaw joint,)." "

"Diagnostic blocks of the greater occipital nerve, and minor occipital nerves with a local anesthetic can be made during maximal headache to confirm the diagnosis," but these blocks are only effective in about two-thirds of patients with CEH.

"One of four patients with CEH continued to be on sick leave at 4 weeks compared with approximately one of 10 in the total cohort."

"At 1 year only, 20% of patients with CEH evaluated themselves as having reverted to pre-injury status, and 15% were on sick leave compared with 4.5% in the cohort."

"70% of the patients with chronic CEH used painkillers at 1 year; 15% used them on a daily basis."

No treatment studies are available for cervicogenic headache.

## CONCLUSIONS

"Cervicogenic headache is a common finding after whiplash accidents."

"Patients with post-whiplash CEH may be predisposed for CEH because they had other headaches, more neck pain, and neck traumas before the accident."

"Recovery from CEH can continue for years after injury."

"Chronic CEH is a whiplash associated disorder with high disability."

## KEY POINTS FROM DAN MURPHY

- 1) There is a marked increase in headache after whiplash crashes.
- 2) Headaches caused by neck problems were first officially described in 1983 and officially accepted by 1994. [Chiropractors have been noting such for a century].
- 3) Cervicogenic headaches are usually unilateral, but can be bilateral, especially after whiplash trauma.
- 4) Cervicogenic headache tends to radiate from the neck to the forehead and often into the eye.

- 5) Some patients with cervicogenic headache have blurred vision and focus problems on the same side as the headache.
- 6) 80% of post-whiplash patients with cervicogenic headache still have their headache a year later, the intensity of their pain remains nearly constant, and they regularly use pain medication.
- 7) Many patients with post-whiplash cervicogenic headache experience dizziness. [Recall, upper cervical afferents synapse in the vestibular nucleus].
- 8) It can take years to recovery from post-traumatic cervicogenic headache.