Managing and Treating Headache of Cervicogenic Origin

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KEYWORDS

• Headache • Cervicogenic • Cephalgia • Occipital neuralgia • Migraine • Whiplash

KEY POINTS

- The term *cervicogenic headache* describes a clinical syndrome of chronic, typically unilateral headaches derived from the neck structures.
- Cervicogenic headaches may be seen in patients with other conditions, including myofascial pain, occipital neuralgia, and migraine headaches.
- The diagnosis of a cervicogenic headache is a predominantly clinical one because no laboratory or radiographic studies consistently confirm the syndrome.
- Techniques of treating a cervicogenic headache include pharmacotherapy, physical and manipulation therapy, interventional injections, and surgical procedures via a multidisciplinary approach.

INTRODUCTION

Cervicogenic headache (CGH) describes a syndrome of secondary hemi-cranial cephalgia thought to be originating from the structures in the cervical spine. Skeletal, connective tissues, and neurovascular structures may be the source of the discomfort in patients. Controversy exists as to the existence of this clinical diagnosis, with some describing the relationship between cervical structures and headache pain as "unproven and often dubious."[1]

Clinicians are faced with a true diagnostic dilemma because of the multitude of structures that may be the causative factor of this headache pain. Additionally, there is no definite test or radiographic finding that definitely leads to a diagnosis of CGH. Physicians from all scopes of practice, from generalists to specialists, will need to be familiar with this syndrome because its prevalence ranges widely throughout the population and may be seen across various disciplines. Some estimates highlight

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0.5% to 4.0%[2] of the population as suffering from CGH. In patients with headaches overall, an estimated 15% to 20% may have CGH.

The quality of life (QOL) of patients with CGH is significantly affected. A study used the Medical Outcomes Study Short Form Questionnaire (SF-36) to evaluate the QOL of patients with CGH, migraine, and tension-type headaches.[3] Patients with CGH were more affected regarding their perception of bodily pain and role limitations and physical functioning than were patients with other headache types. The investigators suggest that the chronicity of CGH may account for differences in QOL reported by patients.[3] A systematic approach to characterize and attempt diagnosis is, therefore, required. After excluding other sources of a headache that may be life threatening in nature, treatment can then be instituted.

HISTORY

Sjaastad and colleagues[4] first mentioned the term *cervicogenic headache* in the literature in 1983 to describe a subset of patients with headaches whose origin of pain develops in the cervical spine. Previously, it was thought that a description of headaches with a source from the neck region was described in 1853; however, the earliest description that is currently accessible is credited to Holmes from a published report in 1913. The investigator in that article noted that tender areas in the cervical muscles could lead to the development of headaches.[5]

Other descriptions noted occipital pain manifesting with auditory and visual alterations as part of "posterior cervical sympathetic syndrome."[5]

The term *occipital neuralgia* was devised after the work of Haddon, who described a suboccipital discomfort that was accentuated by palpation over the greater occipital nerve (GON) with radiation to the temporal region. Patients were noted to have nausea/vomiting, visual changes, and resolution of their symptoms with nerve blockade.[5]

In 1949, Hunter and Mayfield described a group of patients suffering from migraine-like symptoms who had benefit from their complaints after upper cervical nerve blockade. C2 nerve blockade was found to be completely effective in treating the patients in this series; GON block was less effective at providing relief of symptoms.[5]

The Swiss neurologist Barschi-Rochaix contributed to the linking of cervical structures to headache pain.[5] The identification of cephalgia status after cervical spine trauma along with aberration of the cervical facet joints was highlighted as causative factors for headache pain. The term *cervical migraine* was coined based on this work.

Josey, in 1949, described a series of 6 cases of mechanically precipitated cervical headaches, unilateral in location.[6] Maigne, in 1976, also noted the presence of cephalgia originating from the neck structures, describing a "cervical headache."[5]

Various investigators also historically observed the contribution of the cervical disk to headache.[5–7]

In 1983, in their evaluation of patients with headache, Sjaastad and colleagues[4] suggested the presence of a unique CGH in patients with cervical spine complaints. The International Headache Society (IHS) did not recognize this diagnosis in its 1988 classification system by not including a distinct CGH designation.

Sjaastad founded the Cervicogenic Headache International Study Group (CHIG) in 1987 to describe and elucidate criteria for the diagnosis of this condition. In 1994, the International Association for the Study of Pain (IASP) presented diagnostic criteria, formally recognizing CGH.[8]

Subsequent criteria have been revised, and the IHS in the International Classification of Headache Disorders[9] has noted CGH.