Headache: Relief is possible

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Curriculum Vitae

Ina qualified with a BSc-Physio at the University of Stellenbosch in 1974 and after some work with disabled children at the Elizabeth Conradie School in Kimberley and Vista Nova in Rondebosch, Ina went into private practice – in Namibia, in Pretoria and since 1990 in Stellenbosch. She did the Orthopaedic Manipulative Diploma and takes a special interest in back and neck problems, joint problems, headaches and chronic pain. She is currently also teaching at the University of the Western Cape and has been the official physiotherapist for the Stellenbosch University hockey tournament, Boland Netball against New Zealand and the Netball Coach workshop at the University of Stellenbosch. Ina is a busy mother of three boys aged 15, 14 and 11.

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Summary

The generally accepted classification of headaches does not give much room for headaches of cervical origin, but the orthopaedic manipulative therapists have experienced the opposite, and found that gentle mobilisation of the joints of the upper cervical spine does help for up to 85% of their patients. The relevant clinical features, anatomy and physiology are described, and clinical experiments are quoted to support their practical experience. GPs are reminded that physiotherapists have much to offer to help with headache patients especially as they approach the problem from a different angle, and other causes of headaches can thus be excluded timeously.

Introduction

Headache is certainly a common complaint a general practitioner is confronted with. Benign headaches are reported to affect two-thirds of the population.[1] Although the generally accepted classification of headaches by Brain,[2] seems to give little space for headaches of cervical origin, we as orthopaedic manipulative therapists have found that practice proves the opposite. Studies by Edeling[3-5] have shown that up to 85% of headaches can be changed by gentle mobilisation of the joints of the upper cervical spine. Manipulation of the neck has proved to be a diagnostic guide because it has no effect on pure migraine.

Primary cause of CHA is arthritic changes.

Clinical picture

Edeling describes three syndromes which could overlap to various degrees:

i) The pure cervical headache (by which is meant the late fully developed cervical headache syndrome which presents just like a migraine;

Some headache triggers seem to embody a mechanic and biochemical mechanism.

as well as the early syndrome described by Lord Brain).

ii) The pure migraine.

iii) The mixed condition where one or the other is dominant but not clearly separable.

When comparing the clinical features of a chronic cervical headache (CHA) and a migraine, they tend to be surprisingly similar.

* The ***area*** of pain distribution is not a reliable criterion for differentiation, because a cervical headache can literally be anywhere in the head, eyes, temples, occiput, forehead, etc.
* The ***nature*** of the pain is also not a diagnostic guide because a cervical headache can also be throbbing, bursting, boring and accompanied by a feeling of pressure.
* ***Periodicity.*** A cervical headache displays a history of increasing periodicity (once a month to every day over years). It does not abate in later life.
* The ***intensity*** of a CHA can be just as high as in a migraine, depending on the stage of the syndrome and the potency of the precipitant.
* In CHA simple ***analgesics*** become ineffective at a certain stage and increasingly stronger medication becomes necessary until a stage where painkillers do not bring relief.
* CHAs can be ***triggered*** by nearly all the so-called migraine trigger factors. Although ingestants are more commonly a factor in migraine; alcohol, premenstrual stress (PMS), nervous tension/stress are common triggers for CHA. (See possible explanation later.)
* CHAs commonly display all the ***associated symptoms*** held to be diagnostic criteria for migraine, eg, visual disturbances, tinnitis, nausea, vomiting and dizziness.
* CHAs (in the developed syndrome) are generally not confined to ***attacks*** but fluctuate according to circumstances. As the lesion of the cervical spine progresses, pain is more readily provoked by less potent precipitants.
* The ***onset*** of CHA is unrelated to puberty and may occur at any age depending on the onset of the cervical lesion. Frequently there is a late post-traumatic or post-malalignment arthrosis. The pain and intensity/ periodicity pattern increases gradually over the years or suddenly after trauma to the head and neck.
* The CHA may also occur in more than one member of the ***family*** either because there may be a familial congenital anomaly in the cervical spine which predisposes to injury, or the incidence of CHA is so high

that there is inevitably in many families more than one person suffering from headache.

Anatomy, physiology and pathology

The primary cause of CHA is arthritic and the most common sites of origin are the occipito-atlanto-axial articulations. Conventional medical teaching, however, emphasises the intracranial causes of headache and dizziness.

The terminals of the trigeminal nerve and the upper three cervical nerves ramify in a continuous column of grey matter formed by the *pars caudalis* of the spinal nucleus of the trigeminal nerve and the dorsal horns of the upper three cervical segments. This is called the ***trigemino-cervical-nucleus***.[6]

Consequently, since it incorporates the essential nervous structures responsible for transmission of pain and since it receives afferents from the trigeminal and the upper cervical nerves, it may be viewed as the nociceptive nucleus for the entire head and upper neck.

Although not anatomically demonstrated its existence is implied by physiological observations in studies by Kerr and Olafson,[7] Campbell and Parsons,[9] Feinstein et al[10] and Bogduk[6] in which stimulation of the:

* C1 dorsal root produced pain in the orbit, frontal region and vertex.[11]
* Posterior neck muscles produced pain in the forehead, vertex and the sternocleidomastoid muscle referred pain into the temporal region.[8]
* Periosteum and soft tissues around the occipital condyles and upper four cervical interspinous spaces produced pain in the frontal and parieto-occipital regions.[9]
* C3 dorsal ramus evoked referred pain to the occiput, mastoid region and forehead.[6]

These clinical experiments clearly demonstrate the capacity of experimental painful stimuli to produce referred pain in the head. It is, therefore, possible that pathological painful lesions of any of the ***structures innervated by the upper cervical nerves*** are equally capable of producing the referred pain.

Edeling[12, 13] suggests that because the structures of the neck are so closely packed and "there is little room for physical trespass by one tissue upon the territory of another", some headache triggers seem to embody both a mechanical and biochemical mechanism, eg:

* nervous tension chemically triggers cervical muscle spasm which then mechanically compresses painful joints; and
* alcohol, allergic reactions to food, sinusitis, high blood pressure and premenstrual fluid retention may cause an in increased pressure in the joints of the neck.

Treatment

Physiotherapists treat headaches mainly with:

1. Passive mobilisation of the accessory movements of the O/C1, C1/2 + C2/3 intervertebral joints. This mobilisation can be very gentle or can entail manipulation of the specific joints.
2. Myofascial triggerpoint therapy which can be dry needling or acupressure and stretching of the specific muscles.
3. Massage of the neck and shoulders.
4. Rehabilitation of good posture, the correct working and sleeping positions. Exercises to maintain the correct alignment of the head on neck position and to relax shoulder girdle muscles, are also taught.

Conclusion

General practitioners do not usually refer people with headache to physiotherapists unless the headache is overtly related to a cervical lesion (either recalled by

Clinical features of CHA and a migraine are fairly similar.

CHA = chronic cervical headaches.

We often find headaches of cervical origin.

Up to 85% of headaches can be changed by gentle mobilisation of the joints of the upper cervical spine.

the patient or seen on X-rays).

Physiotherapists can offer not only a therapeutic but also a diagnostic resolution for the problem. It must also be kept in mind that physiotherapists approach the problem from a physical or mechanical angle which may differ from that of those whose thinking is more likely to be biochemically and pharmacologically orientated.

Although most headache patients are treated without referral from a doctor, we choose to work in close collaboration with medical practitioners so that other causes of headache can be excluded timeously.

When referring a patient with headache to a physiotherapist, the doctor should enquire whether he/she feels him/herself qualified to offer this specialised service.

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