

Background Vascular Headache: Relief with Indomethacin

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SUMMARY: A patient with long standing sustained unilateral headache ("background vascular") and occasional multiple jabs received prompt and lasting relief from indomethacin. The effectiveness of the drug was tested in a placebo controlled double-blind trial. Indomethacin may be of value in some types of sustained headache.

RÉSUMÉ: L'indométhacine s'est avérée efficace de façon soutenue, étude à double insue à l'appui, chez un malade souffrant d'une hémicranie chronique persistante, occasionnellement lancinante. Bénéfique dans le traitement de certaines céphalées paroxystiques, l'indométhacine a également sa place dans le traitement de certains types de céphalées à caractère plus prolongé.

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A recent report on "cluster headache variant" (Medina and Diamond, 1981) draws attention to a syndrome characterized by long-standing incapacitating headache and a favorable response to indomethacin. The syndrome consists of atypical cluster headaches, multiple jabs of head pain and background vascular headaches. While these symptoms may occur in various combinations only rarely is background vascular headache the main feature of the syndrome and rarely is it associated with multiple jabs alone.

We report here a double-blind placebo controlled study on the effectiveness of indomethacin in a patient with background vascular headache and multiple jabs.

CASE REPORT

A 49-year-old man was first seen following admission to our hospital in 1978. He had been having headaches for more than twenty years. The pain involved the vertex, the left side of the head (including the ear, orbit and face) and the left side of the neck. Rarely it would affect the right side of the head. The pain was sustained and had a pressure-like quality. Although it fluctuated somewhat in intensity it was moderately severe most of the time. It was exacerbated by stress and relieved by aspirin. He also experienced occasional jabs of pain which affected the vertex, the left side of the head and the left ear. These jabs would last about 30 seconds and occur at a frequency ranging from five times a day to once a week. Methysergide, propranolol, carbamazepine and ergotamine has failed to procure relief. Treatment with indomethacin 25 mg twice a day relieved both the sustained headache and the jabs. Omission of even one capsule invariably resulted in headache a few hours later.

To further determine the significance of the observed response we undertook in March 1980 a therapeutic trial for which the patient gave his informed consent. The trial, was held during four consecutive two-week periods. During each period a different combination of indomethacin 25 mg, and/or an identical-looking placebo, was administered. The placebo was prepared at the hospital pharmacy by substituting lactose for the active ingredient of the indomethacin capsules.

Neither the patient nor the evaluator knew which combination was being administered. During the first period he received indomethacin in the morning and placebo in the evening. Throughout this period he

complained bitterly of nocturnal headache. During the second period he received indomethacin in the morning and evening. With this combination he was completely free of pain. During the third period he received placebo in the morning and indomethacin in the evening. Throughout this period he experienced pain in the afternoon which subsided only when he took his evening medication. During the fourth period he received indomethacin in the morning and evening. On this regimen he was free of pain. Subsequently he continued taking indomethacin morning and evening and has remained free of pain and any side effects. He was last seen in November 1982.

DISCUSSION

The utilisation of indomethacin in the treatment of migraine was prompted by the demonstration of its vasoconstrictor action on the cerebral circulation (Sicuteri et al., 1964). Further justification for the use of indomethacin in migraine was provided by the implication of prostaglandin in the pathogenesis of migraine and the recognized prostaglandin inhibitory action of indomethacin (Mathew, 1981).

An early attempt to treat migraine with indomethacin was unsuccessful (Anthony and Lance, 1968). Subsequently a good response to indomethacin was reported in benign exertional headache (Diamond and Medina, 1979), chronic paroxysmal hemicrania (Sjaastad and Dale, 1976) multiple jabs (Mathew, 1981) and cluster headache variant (Medina and Diamond, 1981).

Benign exertional headache occurs following vigorous exercise or straining. It includes cough headache and benign orgasmic cephalalgia. Indomethacin effectively controlled the pain in nine of twelve recently reported patients (Diamond and Medina, 1979).

Chronic paroxysmal hemicrania is a long-standing unilateral headache. It is characterized by frequent (up to 15) short duration (about 15 minutes) attacks each day. There have been 13 cases (9 women and 4 men) reported in the literature. Response to indomethacin was excellent in all cases.

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“Multiple jabs” designates a type of headache which is sudden in appearance, brief in duration (seconds) and may affect various parts of the head. It is also known as “ice-pick like headache” (Raskin, 1980) and “sharp, short lived head pain syndrome” (Mathew, 1981). Multiple jabs may occur as an isolated finding and may also be associated with migraine. In a controlled study (Mathew, 1981), indomethacin was highly effective in relieving the pain in five patients with multiple jabs.

Recently, multiple jabs have been described as part of the cluster headache variant syndrome, an association of atypical cluster headache, multiple jabs and background vascular headaches, in various combinations (Medina and Diamond, 1981). Atypical cluster headache differs from typical cluster headache by the absence of headache-free periods, shorter duration, greater frequency, localization to the frontal or temporal regions and the possibility of shifts from one side to the other. Chronic paroxysmal hemicrania can be thought of as a variant of atypical cluster headache in which the attacks are even more frequent and are always confined to the same side of the head. Background vascular headache is a chronic continuous unilateral headache often with a throbbing quality particularly on exertion. It may occur in association with migraine.

Of fifty-four recently described cases of cluster headache variant only eight did not have atypical cluster headache (Medina and Diamond, 1981). All eight had multiple jabs and background vascular headache. Four of these responded to indomethacin administered in an uncontrolled trial.

From the foregoing it is apparent that the literature contains only one specific reference (Medina and Diamond, 1981) to the syndrome of background vascular headache and multiple jabs. A detailed case report of this syndrome has not been previously published. With regard to treatment the only controlled study deals exclusively with multiple jabs.

Although our patient had occasional multiple jabs, his chief complaint was that of background vascular headache. As described, the latter is a sustained hemicrania which may spread to the neck. A placebo-controlled double blind study showed that it responded well to indomethacin. The response was in keeping with the known pharmacokinetics of indomethacin. The drug is rapidly and almost completely absorbed from the gastro-intestinal tract. Its disappearance from the plasma is biphasic with a half-life of one hour during the initial phase and of 2.6 to 11.2 hours during the second phase.

The prolonged period of suffering that preceded the administration of indomethacin, the failure of other medication to provide significant relief and the sustained response during prolonged follow-up, highlight the effectiveness of indomethacin in this case.

Indomethacin responsiveness is mostly associated with intermittent headache syndromes. It is important to realize that it may also be of value in some types of sustained headache.

REFERENCES

- Anthony, M. and Lance, J.W. (1968). Indomethacin in migraine. *Med. J. Australia*, 1, 56-57.
- Diamond, S. and Medina, J.L. (1979). Benign exertional headache: successful treatment with indomethacin, abstracted. *Headache*, 19, 249.
- Mathew, N.T. (1981). Indomethacin responsive headache syndromes. *Headache*, 21, 147-150.
- Medina, J. and Diamond, S. (1981). Cluster headache variant: spectrum of a new headache syndrome. *Arch. Neurol.*, 38, 705-709.
- Raskin, N.H. (1980). Ice-pick like headache. *Neurology*, 30, 203-205.
- Sjaastad, O. and Dale, J. (1976). A new clinical headache entity, “chronic paroxysmal hemicrania”. *Acta Neurol. Scand.*, 54, 140-159.
- Sicuteri, F., Michelacci, S., and Anselmi, B. (1964). Individuazione della proprieta vasoattive ed antiemichaniche dell'indomethacin, nuovo antiflogistico di derivazione indolica. *Settim. Med.*, 52, 335.