

HEADACHES OF NASAL ORIGIN

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This paper is more or less a summation, with some amplification, of the paper which was presented at the annual fall meeting of the American Rhinologic Society in November of 1962 in Los Angeles, California.

Wolff in 1948¹ documented the referral areas of pain in the nose and noted the extreme sensitivity of the turbinates and sinus ostia in comparison with that of the mucosa of the sinuses themselves. He also noted the secondary autonomic (vasomotor) phenomena following the primary stimulation, such as conjunctival injection, blushing, lacrimation and photophobia of the homolateral side of the stimulation.

There have been many articles published describing head pain originating in the nose. There are complete descriptions of many causes of headache, most of which have failed to emphasize the possibility of a trigger area, or areas, in the nose, stimulation of which may set off these various phenomena. From observations which have been made on various patients in my practice during the past ten years, it would seem logical to assume that there are definite areas in the nose which when stimulated may produce identical symptoms referred to in descriptions of the various migraines and other headaches of autonomic origin (vasomotor). These may be preceded by (aura, etc.) or followed by (sweating, nausea and vomiting, etc.), or other autonomic phenomena.

Somatic sensory head pain has been quite well worked out. However, the autonomic picture has not been so clear. Mitchell² feel that the division of the somatic and autonomic components, created in our literature, is artificial and is only convenient for descriptive purposes. He notes that the autonomic system is represented at every level in the central nervous system and that it is not just a peripheral efferent mechanism. He notes that the effects of parasympathetic stimulation tend to remain localized, while sympathetic stimulation appears to spread further from the primary site. He describes both the autonomic and somatic innervation of the nose. These pathways contain both parasympathetic and sympathetic fibers, which are both vasodilator and vasoconstrictor in character, which also influence secretion and exert a trophic influence on the mucosa of the nose.

Mitchell contends that the olfactory nerve and the associated nervi terminales should be included in the autonomic system because of their influence on sexual and emotional behavior in relationship to various alimentary and respiratory reflexes. He feels that the nervi terminales may have an accessory influence on glandular and vasomotor function associated with olfaction.

Pain secondary to mucosal engorgement was noted to be a prominent symptom by Holmes, Goodell, Wolf and Wolff³ in their monograph published in 1950. The marked lowering of the nasal pain threshold, with engorgement and inflammation of the nasal mucosa was described. This had been previously noted by other investigators.

The cases which I will describe illustrate the presence of so-called intranasal trigger areas. Most of the triggering occurred in the presence of a bony and cartilaginous impaction or deflection which eliminated or narrowed the space between the septum and the turbinates. Mucosal edema secondary to allergy Hilsinger⁴ or other causes, Cottle⁵ with inadequate room for swelling, resulting in compression of tissues, appeared to be the major contributing factor. Occasionally simple stimulation of air currents against the mucosa in an abnormal nasal passageway produced the phenomena.

In each case, the symptoms were relieved by reducing the edema with vasoconstrictors or most often by using cocaine as a topical anesthetic and vasoconstrictor in the trigger areas. The relief of pain symptoms fairly well followed the pattern of referral as noted by Wolff. Usually, but not always, the pain returned with increased severity after the anesthetic wore off, apparently due to the additional edema resulting from instrumentation.

The primary cause of vasomotor rhinitis was most often secondary to allergy or infection, but occasionally it was precipitated by stress.

A study of head pain, excluding sinus disease, should include a review of migraine, (Friedman)⁶; lesions of cervical origin (Braaf and Rosner)⁷; histaminic cephalgia (Horton)⁸; sphenopalatine ganglion and vidian neuralgia (Sluder)⁹, (Vail)¹⁰; ophthalmoplegic migraine (Walsh and O'Doherty)¹¹; syndromes of the nasociliary nerve (Charlin)¹²; anterior and posterior ethmoidal neuralgia and syndrome of the olfactory fissure (Littell)¹³; tension headaches; trigeminal neuralgia; chronic indurative headache; periarteritis of the temporal artery; temporal arteritis; atypical facial neuralgia (McElin)¹⁴ and others. Most of the preceding appear to be associated with vasodilator phenomena. (Hilger).¹⁵

The following cases appear to bear out the conclusions:

Case No. 1 - ALS - Internist. Age: 55. This patient gave a twenty five year history of right sided severe attacks of migraine, which were preceded by the usual migraine prodromata. He had had previous septal surgery, as well as complete allergy and other studies. Relief of a high septal impaction against the posterior middle turbinate and in the nasal fissure area, anterior to the sphenoid sinus, has given him five and one half years of total relief of his symptoms except for occasional mild prodromal symptoms associated with severe episodes of vasomotor rhinitis.

Case No. 2 - ALS, Jr. Age: 35. General surgeon. The patient is the son of the preceding doctor. Relief was accomplished by cocainization of a high left impaction of the septum against the middle turbinate. For the past one and one half years his vasomotor rhinitis and pain symptoms have been controlled by medical means. This case is of interest because of the familial pattern involved.

Case No. 3 - Dr. RG - Obstetrician and Gynecologist. Age: 58. This patient gave a twenty five year history of typical and severe right sided migraine headaches. They were preceded by totally incapacitating prodromal symptoms. I examined his nose during the prodromal phase. This involved scotomata, depression and loss of orientation. After cocainization of a high right septal impaction, dramatic and immediate relief of his prodromal symptoms was obtained. After about an hour, the prodromal symptoms returned as the

anesthetic wore off. The trigger area was recocainized with relief. Following this, for the first time in his memory, prodromal symptoms did not recur, and strangely enough, the headache phase did not appear. Since that time (nine months), the symptoms have not recurred. However, he states that his attacks have been less frequent during the past few years.

Case No. 4 - RMJ - Salesman. Age: 54. Presented a history of severe, incapacitating left nasociliary pain for over thirty years. He has been totally relieved for the past twelve months by surgical correction of a high left septal impaction, involving the middle turbinate area and above. The patient had been incapacitated for three to four days a week for one year before surgery.

Case No. 5. - CFL - Hotel Owner. Age: 51. History of severe, right frontal, orbital and maxillary pain referral to an area behind the right ear. This would incapacitate him for two to three months at a time. He had had previous tooth extractions, septal surgery and right pansinus surgery without relief. Correction of an impaction of the vomer against the right middle turbinate has resulted in symptomatic relief during the past eighteen months.

Case No. 6. - Mr. FGS - Optician. Age: 40. This patient gave a seven year history of severe incapacitating pain behind the left eye with referral to the left temporal area. These symptoms were becoming more frequent, occurring almost daily. Correction of a high left septal impaction against the left middle turbinate has given him relief for the past thirty two months.

Case No. 7. - BMH - Housewife. Age: 35. Severe left frontal and orbital pain, precipitated by upper respiratory infections, stress and allergy of about seven years duration, becoming more frequent. Surgery for relief of a left frontal osteoma, which was found to be nonpathological, resulted in decompression of the lateral nasal wall. This has given her relief for the past seven years.

Case No. 8. - Mr. FB - Age: 65. Pain of six years duration referred to the right orbit, right frontal area and to the right vertex with occasional spread of pain to the right upper incisors. The pain was precipitated by intranasal edema, primarily on an allergic basis. He has been symptom free for the past nineteen months following relief of a septal impaction against the middle turbinate and above.

Case No. 9 - DJH - Housewife. Age: 46. This woman had had severe, incapacitating, increasingly frequent, intermittent pain around her left eye for over twenty years. Correction of a high septal impaction against the anterior, left middle turbinate has aborted her pain during the past twenty five months.

Case No. 10 - GR - Housewife. Age: 42. Gave a twelve year history of right sided facial pain involving the upper incisors, cheek, orbit, frontal area and vertex with occasional referral to the right ear. She was noted to have three areas of impaction, septal in type, one against the inferior turbinate, a second against the middle turbinate and a third in the nasal fissure area. Cocainizing the inferior impaction relieved the pain in the upper teeth and lower facial area. Anesthesia of the middle turbinate impaction relieved the upper facial and orbital pain. The pain over the brow, frontal area and vertex was relieved by cocainization in the nasal fissure area. This was done repeatedly. Following surgical relief of her impactions, three months ago, she has had no recurrence of her pain. Too little time has elapsed to draw

any definite conclusions, as far as a permanent relief of her problem is concerned. However, she is interesting from the standpoint of multiple referral areas in the same nose.

Many additional patients have been observed in whom symptoms of head pain have been relieved by nasal surgery, usually of minor nature. This type of patient is seen frequently in an otorhinolaryngologic practice.

We must not overlook the fact that there are physiologic changes which lessen edema, as well as senile atrophies with advancing age. This may account for the relief of many migraines and other syndromes involving head pain.

Another observation which is of interest is, that in many of these patients, a distinct overflow of the pain symptoms to the upper teeth may occur in the presence of impaction of the septum against the middle turbinate.

Distant sequelae of severe head pain must not be overlooked. These include nausea and vomiting, as well as secondary pain from muscle spasm, as well as vasomotor disturbances such as changes in blood pressure, pallor and sweating associated with glandular stimulation.

It must be stressed that in all of the cases cited in this paper, symptoms were relieved by anesthesia or vasoconstriction and reproduced at will by instrumentation or irritation of the trigger area involved.

The majority of the patients cited in this paper have previously been presented. These have been under observation, however, and new cases have been added.

MAUX DE TÊTE D'ORIGINE NASALE

Cet article s'appuie sur le fait que la plupart des syndromes de cephalée de l'une ou de l'autre origine somatique ou autonome sont la conséquence d'une altération de la muqueuse nasale. Les facteurs précipitants, les plus importants sont l'oedème du nez avec difformités, telles qu'impaction ou déflexion et d'autre part les cas où la place pour la formation d'oedème est insuffisante.

On donne une courte description de l'innervation somatique et autonome. Les symptômes locaux et à distance sont discutés. Nous citons les différents syndromes en rapport avec les maux de tête.

Le diagnostic de la douleur, ayant son origine à hauteur de la muqueuse nasale est posé après disparition des symptômes par vasoconstriction ou anesthésie de l'endroit en cause.

Un résultat définitif est obtenu après traitement chirurgical des os et cartilages en cause. Généralement la chirurgie de la cloison ou la fracture du cornet inférieur sont suffisantes. Nous discutons un cas de migraine durant depuis vingt-cinq ans et soulagé à plusieurs reprises dans la phase prodromale par la cocainisation intranasale, qui prévenait la phase de cephalée. Un autre cas de migraine d'origine nasale durant depuis vingt ans est mentionné: il résulte d'une mauvaise direction du courant d'air contre la muqueuse nasale. Ce cas a été guéri par une reconstruction totale du nez.

La plupart des malades avaient les symptomes depuis cinq à trente ans, Presque tous sont libres des symptomes, de dix-huit mois à plusieurs années après la correction chirurgicale.

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