

The new frontiers of
Oto-Rhino-Laryngology
in Europe

Workup and medical treatment of headaches and migraines surgery for headache.
Report on 505 patients

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SUMMARY

In this paper, all the steps taken to diagnose and treat chronic recurrent headaches were presented together with results of treatment of 502 patients.

INTRODUCTION

Sluder in 1927 (1) and many others observed the fact that headaches (H/A) are caused by rhinologic triggers. This paper involves a report on the medical and surgical treatment of 505 patients (pts) with chronic recurrent headaches (CRH).

MATERIALS AND METHODS

Out of 516 pts seen, 505 underwent the plan for diagnosis & treatment. They were accepted with the knowledge that, headache triggers would be searched for and no kinds of narcotics or medicinal drugs would be prescribed. They were interviewed to verify that there would be no material nor psychological gain from keeping their h/a.

DIAGNOSIS

Accurate documentation of the nature of the h/a for the last 4 months is done regarding: Their severity (0 – 10); their frequency per month; their anatomical location on the face, head & neck; and also if there is more than one type of headache. Hence assessment of the treatment can be done. Accompanying INTERMITTENT symptoms “acephalgic migraine” (2) are documented; such as vertigo, G.I. symptoms, Raynaud’s phenomena, variant angina, asthma rhino-sinusitis, itchy rashes, depression, fatigue, sleep disorders and unfocused feelings.

General & neurological physical examinations were performed, together with lab tests that ruled out organic causes of h/a.

CBC & diff. blood tests, fasting blood sugars & HILV, as well as bacterial cultures of nasal secretions with antibiotic sensitivities were done.

CT scans &/or MRIs of the brain & para nasal sinuses were done when indicated.

Only in pts who did not have acute Rh. sinusitis & who came with h/a we applied cottonoids of cocaine 5% solution on the spot according to the mapping of McAuliffe (3) this either abolished or greatly reduced h/a.

Those h/a in the sub occipital region & down the neck were abolished by application of the cottonoid on the posterior-most portion of the inferior turbinate of the side of the headache (4).

H/A pts that had any ONE or more of the “Acephalgic Migraine” symptoms underwent allergy testing either by the RAST method (5) or by skin intradermal methods. (6) (7). Pts are

tested for pollens, molds, house dust mite, food & environmental chemicals such as cigarette smoke, perfume, formaldehyde, etc., if indicated.

They kept diaries entering all relevant exposures, food or drink consumed; together with occurrence of any H/A or other symptoms.

TREATMENT: MEDICAL AND SURGICAL

Medical: Comprised one or more of the following according to the results of the diagnostic tests.

- a. Pts had to eat 3-4 times/day.
- b. They were given immuno-therapy either by injections or sublingual.
- c. Were given antibiotics according to sensitivities together with mucolytics.
- d. Allergic pts followed a 4 day rotating diet EXCLUDING the offending foods.

Computerized dietary plans and support was given. Most offending foods were re-introduced back successfully in conjunction with immuno-therapy. For some pts re-introduction continued to give headaches so they had to plan living without them; & these were one or two foods such as wheat, corn, milk products, tomatoes, beef, pork, eggs and chicken (i.e. not particularly tyramine containing foods).

Surgical treatment:

Indications:

1. Pts that had chronic clusters.
2. Pts that had every day headache.
3. Pts that had H/A with physical exertion or sex. These groups have severe impaction of the nasal turbinates, +/- conchaebullosa, +/- sinus pathology, +/- various degrees of deviated nasal septa.
4. Pts that continued to have H/A after 4 weeks of medical treatment AND HAD abnormal rhinological findings AND continued to sleep on one side.

Surgery for Headache.

Procedures utilized depended on the LOCATION of the H/A in relation to the site of the anatomical deformities.

1. For unilateral H/A (Migraine); normalization of the nasal airway was essential. Septial surgery +/- reduction of n. turbinates +/- any para n. sinus surgery if indicated.
2. For top of the head H/A, in addition to the above, sphenoidectomies were performed.
3. For Frontal H/A; in addition to septal, turbinate surgery AND when the frontal sinuses were clear on the CT scan; endoscopic opening of frontal duct through the anterior ethmoid cells was done. Always whenever ant. Ethmoid surgery was done, the ant. tip of the middle turbinate and the medial surface of the lat. nasal wall.
4. For suboccipital headaches reduction of the bulk of the inferior turbinates was done as well as securing a good size sinosotomy to the maxillary sinuses preferably in the middle meatus Post operative control of infection was done; and repeated bacterial C & S were done when necessary.

RESULTS

Out of 516 pts that were seen, only 505 underwent the tests for diagnosis: Three pts had organic disease. 1 – Lymphatic leukemia; 1 – Aids; 1 – subdural heamatoma.

Out of 502 pts treated, two had unsatisfactory results.

One is now 15 years old still gets severe migraine on consumption of any small amount of dairy products. Also Staph Aureus Coag +ve is cultured from his nasal secretions repeatedly even after Rhinologic surgery and draining pus from a middle ethmoid cell.

The Second pt. is 26 years old, through the severity of the headache decreased from 8 to 5; yet he kept the same continuous headache after rhinological surgery. He was under a neurologist and his H/A was resistant to all trials of headache medicines.

The remaining 500 pts had good results with identification of the triggers & their prevention where treatment was not possible.

Of these 500 pts that had good results, 242 had clinically deviated nasal septa; of these only 96 had rhinological surgery. i.e. 146 with clinical deviated n.septa had good results with medical treatment only.

Total No. of pts that had good results:	No. of pts medically treated:	No. of pts. surgically treated:
500	404	96

DISCUSSION

Many authors (1, 8, 9, 10, 11, 12) since Sluder 1927 have repeatedly published about the rhinological triggers that initiate various kinds of headaches.

“A drop of 30 MV of action potential was measured in the buccal mucosa on food contact and likewise from the intra-dermal skin allergic reaction, negative potentials of over 100 MV may be generated locally within 15-30 seconds and central reactions occur” (13). Macrophage enriched cells from Peyer’s patches were capable of presenting antigen to primed T cells following antigen feeding in vivo (14). As well “Food antigens can gain access to the hypothalamic area due to the absence of a blood brain barrier” (15, 16). Synthesized nerve cells react to antigen-antibody reaction and will stimulate other nerve cells. Considering all the above; THE MECHANISM TRIGGERING THE H/A is believed to be that of an ANTIGEN-ANTIBODY REACTION CENTRALLY, that will result in release of histamine, serotonin (17) noradrenalin & neuro-transmitters from the degranulation of the mast cells (18). These products hit various peripheral targets, those that stimulate rhinological triggers give us the variety of H/A and those that hit other systems give us the “acephalgic Migraine” afflictions. Typically all these are intermittent and take place as a result of exposure to offenders. The symptoms reported by our patients on provocation blindly with inhalant, chemical or food antigens on the skin of the arm or sublingually, confirmed this central allergic mechanism that may be passed to any system. And is also evident in the Migraine personality. So a patient may get a H/A from tomatoes, get

very depressed from form-aldehyde and get dizzy from wheat. Also these provoked symptoms can take place within 30 seconds to 3 minutes.

Pts kept diaries of all their activities, exposures and were following the 4 day rotating diets. They were able to discover offenders that gave them their headaches. Neurotransmitters such as substance P, neurokinin A & Calcitonin contract smooth muscles (19). While in delayed allergic reactions release of chemotactic mediators will attract inflammatory cells to the site. When these allergic reactions occur in the nose, the initial contraction of the blood vessels of the turbinates will soon be followed by reactive vasodilatation that will give us huge nasal turbinates. While the histamine reaction interfering with the cell membranes permeability of the nasal & paranasal sinus mucosa will result in edema. Accordingly pain is perceived in that area of the face, head or neck that corresponds to that targeted area. The pathway by which a rhinologic stimulus gives referred pain in the suboccipital area of the same side was found out to be due to convergence of cervical nerves 1, 2 & 3 into the neurons of the 5th nerve (12, 20).

The principal of our treatment is that if we can prevent the stimulus, we try. If that targeted area can be surgically reduced in volume then that also should be attempted. Bearing in mind always that "Local vaso-motor changes in erectile tissues of the nose as accompaniments of stress, exhaustion, anxiety, sexual excitement" may exaggerate the effects (21). "And ordinarily such variations are not associated with symptoms, BUT IF THERE BE INFLAMMATION DUE TO INFECTION these changes enter awareness (23, 3). That is why it was indeed rewarding in our patients to control all bacterial infections at the start of the treatment and whenever they recurred.

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