

THE TREATMENT OF VASOMOTOR RHINITIS WITH FENESTRATION OF THE NASAL SEPTUM

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Allergic rhinitis forms together with vasomotor rhinitis a common clinical entity, both representing "hypersensitive reactions" being called "vasomotor rhinites" regardless of their diverse etiology. Vasomotor rhinites excite the interest of specialists constantly owing to their high incidence, their unpleasant symptomatology, their long evolution, as well as their difficult and long-lasting treatment. They are determined by specific (allergens) or unspecific antigens, single or multiple. It is interesting that in spite of the general hypersensitivity of the body, the reaction is produced electively on the nasal mucosa, regardless of the place of contact with the antigen, which can be local-nasal (e.g. with pollen), distant (e.g. with chocolate) or general (e.g. decrease of environmental temperature, psychic excitations etc.).

A precise differentiation and identification of the allergen is important from therapeutical point of view, although the specific desensitization rarely leads to a secure and final recovery (1,2,4).

On stating the diagnosis we take into account the anamnestic data, the clinical and the laboratory examinations, the cutaneous tests (such as epicutaneous scratch, prick and intracutaneous testings) provocation (intranasal) and IgE (RAST) tests (1,5,6).

As it is known, there are only few absolutely secure objective signs (histopathologic or laboratory ones etc.) that enable a safe proof for the diagnosis. The positivity of the mentioned tests allows us to con-

firm the diagnosis in presence of the clinical symptomatology and evolution, characteristics for the disease (2,3,4).

The treatments recommended so far can improve the evolution of the disease, but they seldom cure them. Regardless of their etiology, vasomotor rhinites react promptly and safely upon the corticoids, to which both the allergologist and the rhinologist must still frequently appeal, despite the biologic disadvantages they involve (3,6,7).

On observing nasal vasomotor reactions (oedematous tumefactions of the nasal mucosa, abundant hydrorrhea etc.) appearing frequently after apparently unimportant interventions, too (as cauterizations of the nasal mucosa or after polypectomies or mucotomies etc.) the rhinologist keeps the impression that in vasomotor rhinitis there must exist local causes too, responsible for the constant appearance of the reaction (of a general hypersensitivity) limited to the nose. We have some other observations to sustain this assumption. Some years ago we made a tonsillectomy in a male patient aged 54, who knew about his hypersensitivity to pyramidon. The operation has been performed without any incident, under local anesthesia. After the operation, the patient (otherwise an educated man) applied 5 suppositories against pain, not knowing that they would contain pyramidon. Three hours after the operation, there appeared a generalized urticaria, a massive oedematous tumefaction of the tongue, pharynx and larynx, all of them so suddenly that the patient could have been saved from suffocation only by emergency tracheotomy. This example also indicates that in case of a general hypersensitivity of the strongest vasomotor reaction appears at the level of a pathologic event, in this case around the operative wound.

These observations determined us to look for local factors, for pathologic modifications in the nose, which could sensitize this region promoting the onset of the hypersensitive reaction at this level. Such modifications could be septum deviations, concha hypertrophies, polyps and other form and volume modifications of the nasal fossae. The common effect of all these is a decrease of nasal ventilation and secretion drainage, therefore, first of all secretion stagnation. The modifications mentioned above have already riveted the attention of rhinologists who considered them necessary to be remedied. The fact is that these surgical interventions have frequently improved the patients state, but they could not cure the disease. (3,7).

The necessity of polyp removal is very comprehensible, its advantages need no further explanation. The next intervention for nasal fossae enlargement, the septal resection, is also natural, first of all because septum deviation often associates with nasal polyposis, impeding the polypectomy in many cases. It is regrettable, however, that little space can be gained by submucoperiosteal septum resection, in best case only a passage of 2-3 mm that can hardly bring about any improvement to a short and narrow nasal fossa. Most of us tend to spare the conchae and lateral walls of the nasal fossae as much as possible, due to their important functional roles (3,5,6,7).

Up to the present nobody has ever thought of sacrificing the nasal septum for the sake of place gaining, because the septum has an important static role during facial skeleton growth ensuring the development

of the dorsum nasi and so that of the characteristic individual profile. To we know that when the growing period is finished, after 17-18 years, we may dispense it without any problem. The septum had been so appreciated before that its perforation during the Killian operation was considered a technical mistake, and closing procedures were elaborated and are still being worked out for the healing of accidental, iatrogenic perforations or of those appeared after intensive nose picking.

Another fact that has protected the septum from surgical interventions is that during anterior rhinoscopy a single surface of it is examined, through which the appreciation of its thickness is less possible, e.g. the evaluation of its oedematous swelling etc.

Three decades ago we had the opportunity to perform large septectomies for one malignant lymphoma, a melanoma and a chondrosarcoma in two men and a woman who had vasomotor rhinitis, too. To our big surprise, in two of the patients the vasomotor rhinites have definitively healed after the operation. First we thought that it had been caused by postoperative radiotherapy. Then, we had a patient aged 57 with nasal polyposis, who relapsed and was operated for several times, and whose nasal fossae were so narrow that they could not allow the perfect execution of the polypectomy. During the submucoperiosteal resection of the nasal septum the mucosa proved to be thin and friable that the operation led to a large perforation. After the operation the polyposis did not relapse any more and the attacks of vasomotor rhinites (not too intense) present before the operation have also disappeared.

Based on these experiences we started to perform septectomies of different extent: 1. anterior, 2. medial and 3. posterior (fig. 1). in the

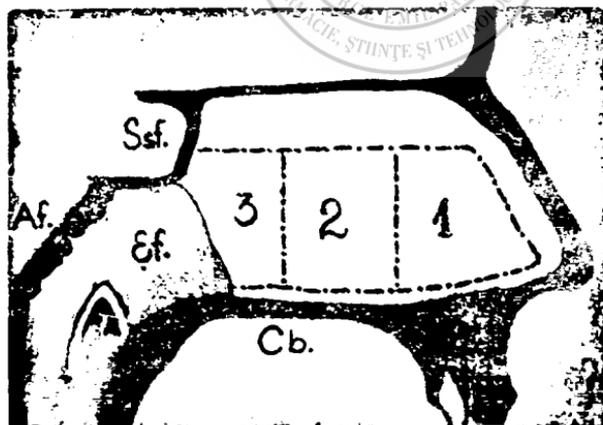


Fig. 1: Nasal septum.
1 = anterior, 2 = middle, 3 = posterior septectomy, Ssf = sphenoid, Af = adenoid, Ef = eustachian tube, Cb = oral cavity

patients with vasomotor rhinites, resistant to the allergologists' treatment. Before the operation we had thoroughly explained to the patients the indication and nature of the intervention, asking each time for their approval. Up to now we have executed septal fenestrations, i.e. partial septectomy in 120 patients, with partial or total conservation of the vomer in all cases. 96 cases subjected to such an operation showed a defini-

tive recovery. Of the other 24 patients (from a total of 120) 11 have disappeared from our control sphere, 9 patients have much improved, they have clean permeable nasal fossae, but sometimes they still produce permeable nasal fossae, but sometimes they still produce short crises of vasomotor rhinitis. In 4 patients polyposis reappeared in the posterior portion of the nasal fossae.

The operation we propose is easy and fast to perform (under local anaesthesia). By linear incisions performed by a slightly curved scalpel a square plate of the septum is sectioned and removed through the nostril. If necessary the window can be enlarged and its edges adjusted with a small Hartmann conchotome. During the operation the haemorrhage may be abundant, therefore we work fast, and we apply, immediately after the removal of the plate excised, an anterior nasal tamponade with small cotton pieces, of which each second or third is imbued with a solution of ferric perchloride. The tamponade will be removed after 2-3 days to prevent the haemorrhages caused by a too early tampon mobilisation.

In the first days after the operation the crust formation is marked, but it ceases gradually in a few weeks, without any special treatment. The wound epithelisation usually ends within 10-14 days, the nasal fossae become clean, permeable, covered by a healthy mucosa and the nasal respiration will be normal.

If after the operation the mucosal oedema is too pronounced we give for 5-8 days, 3x2 tablets of 5 mg Prednison. The symptoms of vasomotor rhinitis usually disappear entirely within some days after the operation and the patients become practically asymptomatic. The septal window does not produce them any noticeable sensation.

Vasomotor rhinitis represents the relative hyperactivity of the nasal parasympathetic nervous system. Looking for the local factors that can excite the nasal mucosa in sense of evoking allergisation (we are also referring to unspecific excitations) we have been drawing the following conclusions:

The nasal mucosa is in permanent and most important contact with the inspired air. The literature is abounding in works referring to modifications of the nasal mucosa that appeared as an answer to the action of the changes in pressure, humidity and temperature of the inspired air. This air, together with the numerous substances suspended in it, with physical, chemical and biological properties, may determine hyperaemia, anaemia, changes of temperature, and turgescence of the nasal mucosa, its oedematous tumefaction and the secretion of the glands it contains (4,5,6.).

The relation of the nasal mucosa to external solid bodies is rare.

An important factor in this regard is the mucosal block caused by the stagnating nasal secretions. The accumulation and stagnation of the secretion promote the multiplication of the microbes whose metabolites may excite the mucosa considerably.

The role of the direct contacts appearing temporarily or permanently between two neighbouring structural formations should not be neglected, either. For example a septal spine or ridge with the lateral wall,

a tumefied concha with the nasal septum, or a polypous formation with its surroundings. The nasal mucosa richly innervated for the analysis of the physical and chemical properties of the inspired air, acts intensely to any contact with solid bodies, even with the finest ones. The role of the intranasal contacts mentioned above have been frequently accused for the (1,2,3,) onset of the migrainous crises and of the asthmatic attacks.

The conclusion of those above is that from a therapeutical point of view anything should be done in order to ensure a perfect nasal ventilation by a constant physiologic nasal respiration, which, in its turn ensures by the vertical position of the soft palate the optimal drainage of the nasal secretions to the mesopharynx.

The perfect ventilation of the nasal fossae and all their existing recesses may frequently not be ensured by a simple insistence on constant nasal respiration in case of short and narrow or generally tight nasal fossae due to spetum deviations, concha hypertrophies etc.

It must be also taken into account that in some patients with nasal obstructions the reflex-arch of the onset of the vasomotor reaction may be elaborated so hard that the recalibration to the normal size of the nasal fossae can no longer ensure the healing of the process, as in these cases an overrecalibration, higher than the normal will be needed.

On taking into consideration the fact that up to the present, curings have been rarely obtained by submucoperiosteal septum resections, by mucotomies and polypectomies, our good therapeutical results seem to demonstrate that the lack of the nasal septum, obtained through the septectomy we have recommended is indispensable to the rupture of the reflex arch arousing the access of itching, sneezing, hydrorrhoea and oedematous tumefaction of the nasal mucosa, which all may be brought about experimentally, too, through the excitation of the nasal mucosa.

The advantages of nasal fenestration (of the septectomy) recommended by us are the following:

1. It dilates the nasal fossae considerably without functional inconveniences.
2. It changes the way of the inspired air, and so it also changes the place and intensity of the excitations exercised upon the mucosa.
3. It amplifies the drying effect (by evaporation) of the nasal secretions by the air inspired through the nasal mucosa, thus diminishing its excitability (it decreases the sneezings, hypersecretion and reactive obstructive oedema).
4. It reduces the number of nervous terminations which the reflex arch of the vasomotor rhinitis attacks starts from.
5. It sections an important number of nervous fibres of this reflex arch.
6. It produces no inconveniences to the patient.

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We have carried out nasal septum fenestrations in 120 patients with vasomotor rhinitis caused by specific allergens and unspecific antigens/, obtaining definite healings in more than 80% of the patients having undergone the operation. The intervention is simple and fast. The healing, the epithelization of the wound lasts about 3 weeks. After that the patients become asymptomatic.
