

Sinonasal Headache: Otolaryngologic view

Cefaleia rinogênica: visão otorrinolaringológica

Complaints of headache compatible with different aetiologies are very common in the clinical practice of neurologists, general practitioners, otorhinolaryngologists, ophthalmologists, dentists, and even psychiatrists. The International Headache Society (IHS)¹ classifies the disease into two major groups: primary and secondary. Secondary headache includes head or facial pain caused by disorders of the skull, neck, eyes, ears, nose, paranasal sinuses, teeth, mouth or other craniofacial structures.

The term rhinogenic headache can be related to any sinonasal disease such as acute rhinosinusitis or exacerbations of chronic rhinosinusitis. However, the term also refers to headaches originating from points of mucosal contact between nasal structures.^{1,2}

Patients typically present with headache, nasal congestion and trigger points without rhinorrhoea or other signs of rhinosinusitis; most cases are compatible with the classification of migraine without aura. Contact point headaches are caused by persistent mucosal contact resulting from anatomical abnormalities such as septal deviation, nasal polyps, abnormalities of nasal conchae, anatomical narrowing of the infundibulum or frontal recess.²

Although controversial, the pathophysiology of the condition is based on the model of innervation of the nasal mucosa. The ophthalmic and maxillary divisions of the trigeminal nerve have a vast network of adrenergic and cholinergic fibres, most of which pass through the pterygopalatine ganglion and control the actions of mucosal vessels and glands. Recent studies have shown that in addition to the classical neurotransmitters acetylcholine and norepinephrine, there is at least a third group of mediators: neuropeptides. Among them, the most important for nasal physiology and pathophysiology seems to be substance P, a polypeptide composed of 11 amino acids acting as one of the mediators of vagal and sensory nerve fibres, which are unmyelinated type C fibres.^{1,2}

These mediators induce vasodilation, hypersecretion, and increased permeability and mucociliary activity of the nasal mucosa, resulting in hyperaemia and oedema. According to this model, nasal congestion and obstruction of a sinus ostium rich in nerve endings can trigger the development of various forms of neurovascular headache. Furthermore, contact between structures promotes a local inflammatory process due to mucociliary dysfunction, which may lead to the release of pain-related mediators.

To confirm the diagnosis, it is essential to conduct a very detailed medical history and otorhinolaryngological examination, with fiberoptic nasolaryngoscopy and a CT scan of the paranasal sinuses. With fiberoptic nasolaryngoscopy it is possible to visualise points of contact in the nasal mucosa, examine the middle meatus and the state of the mucosa, and assess the presence, type, and drainage direction of the secretion. The test is therefore important to identify signs of sinus inflammation. Tomography is an essential diagnostic tool in cases of facial pain. It provides 3D visualisation of contact areas as well as the degree of opacification of paranasal sinuses in sinonasal conditions. Even though this is not part our routine, the physician can also palpate the paranasal sinuses to assess the presence of pain, although it does not replace the richness of detail from fiberoptic nasolaryngoscopy and CT.²⁻⁴

Thus, the treatment of rhinogenic headache is focused on reducing contact areas, either with medical treatment to reduce the inflammatory swelling of the nasal mucosa or with surgery to reduce the possibility of contact areas.

The main controversy regarding the efficacy of this kind of procedure is related precisely to its surgical indications. From the practical point of view, because there is still no robust scientific and pathophysiological basis for the role of nasal surgery in the treatment of this type of headache, the indication for surgery is only valid in the presence of

other nasal symptoms such as severe nasal obstruction and persistent rhinorrhoea.^{2,5-7}

The indication of nasal surgery with the sole purpose of improving pain in the presence of contact areas is still uncertain and should only be considered after the failure of other medical alternatives.

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