

Phenomenology, pathogenesis, diagnosis and treatment of aspirin-sensitive rhinosinusitis.

[Schapowal AG](#)¹, [Simon HU](#), [Schmitz-Schumann M](#).

Author information

¹Hochgebirgsklinik Davos Wolfgang, Switzerland.

Abstract

Aspirin-sensitive rhinosinusitis is a non-allergic, non-infectious perennial eosinophilic rhinitis starting in middle age and rarely seen in children. It may also be seen in atopic patients who have developed a mixed type rhinitis with recurrent airway infections. There is an intolerance to aspirin and most other NSAID. An intolerance to tartrazine, food additives, alcohol, narcotics and local anaesthetics can follow.

Most aspirin-sensitive patients develop nasal polyps. Untreated, it can lead to asthma. The frequency of aspirin intolerance is 6.18% in patients with perennial rhinitis and 14.68% in patients with nasal polyps. Immunologic studies of the blood and the nasal polyps show a hyperreactive immune system with an activation of the eosinophil granulocytes due to a TH1-lymphocyte-activation. In atopic subjects with a mixed type rhinitis, we found a TH2- and B-lymphocyte-activation as well. Inhibition of eosinophil apoptosis might be a second remarkable change in the immune system of aspirin-sensitive patients.

A key pathogenic event for aspirin sensitivity is the change of the leukotriene pathway for arachidonic acid metabolism releasing high amounts of leukotrienes LTC₄, LTD₄ and LTE₄, effective chemoattractants and activators of inflammatory cells.

For the diagnosis of aspirin intolerance, nasal, bronchial and oral challenge are available. The sensitivity of nasal challenge with lysine-aspirin for the diagnosis of aspirin-sensitive rhinitis is 0.93, the specificity 0.97. It is the safest test in aspirin-sensitive asthmatics causing bronchial side effects only in 0.45%.

Therapy of aspirin-sensitive rhinosinusitis includes avoidance of aspirin and NSAID. A general down regulation of the immune response with glucocorticosteroids is an effective means. We prefer a maintenance dose of budesonid 400 micrograms a day. Systemic steroids for a reversibility test or in exacerbation due to viral infection are given in a dose of 50 mg a day for one week. If steroids don't work well enough, we combine them with aspirin desensitizations at a maintenance dose of 500 mg a day. Gastrointestinal side effects occur in 20% of the patients with a dose of 500 mg aspirin a day, in 46% with a mean dose of 1300 mg a day.

The combined treatment of topical nasal steroids and aspirin-desensitization is effective in 65% of the patients with improvement in the symptoms of hyper-secretion, irritation and blockage, while 73% show improvement of polyps, hyposmia and anosmia.

Endonasal endoscopic surgery of the ethmoids, turbinectomies and septoplasty should be done if necessary, especially in cases where conservative treatment fails. After surgery a further antiinflammatory treatment is absolutely necessary otherwise polyps reoccur in 90% of the cases after weeks or months.

Unfortunately there is so far no curative treatment. New drugs like cytokine or leukotriene receptor antagonists give hope for better results in treatment of aspirin intolerance in the future.