ORIGINAL STUDY

Postoperative application of Amphotericin B nasal spray in chronic rhinosinusitis with nasal polyposis, with a review of the antifungal therapy

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ABSTRACT

BACKGROUND. Chronic rhinosinusitis (CRS) affects 1-4% of the adult population. The etiology of this multifactorial, chronic disease, which leads to a significant impairment of the quality of life, often accompanied by nasal polyposis, is not fully understood. In the past decade, it was presumed that the disease, which causes characteristic eosinophilic infiltration of the nasal mucosa, is triggered by an enhanced (but not classical allergic IgE-type) immune response against fungal organisms in the nasal mucus. If this supposition is correct, then it appears obvious that the administration of amphotericin B nasal spray in adequate concentration following endoscopic polypectomy should be advantageous for these patients, and might even reduce the number of recurrent cases.

MATERIAL AND METHODS. To check on this assumption, we conducted a prospective randomized placebo-controlled trial involving 35 patients, 30 of whom remained in the study throughout. Patients with nasal polyposis were operated on with an endoscopic technique between 1 November 2005 and 1 October 2006; group A (14 randomly selected patients) were treated with a nasal spray containing 5 mg/ml amphotericin B, while the placebo group B (16 randomly selected patients) received a nasal spray lacking amphotericin B. We evaluated our results with the aid of a modified Lund-Mackay CT score, the SNAQ-11 test (which assesses changes in the symptoms), a quality of life test and endoscopy. The SPSS 14.0 for Windows program was utilized to process the data of examinations performed preoperatively and one year postoperatively.

RESULTS. The CT scores of the group A patients one year after the operation exhibited wide scattering, without signs of recovery. The CT scores of the group B patients indicated a slight improvement, though this did not prove significant relative to group A. Both the SNAQ-11 test and the quality of life test revealed a significant improvement in each group, but the degrees of change in these tests did not differ significantly between the two groups of patients. The endoscopic findings indicated a slight improvement to the advantage of the amphotericin B-treated group 12 months after the operation.

CONCLUSIONS. These results lead to the conclusion that the administration of amphotericin B nasal spray to patients operated on for nasal polyposis does not give rise to a significant alteration in either CT score, clinical symptoms, or quality of life. The more favorable clinical aspects observed in the amphotericin B-treated group during the endoscopic follow-up did not correspond to an improvement in the symptoms. In connection with the conclusions drawn from this study, the authors discuss the controversial data available on the fungal etiology of CRS. They critically analyze the contradictory observations and conclusions of seven recent clinical studies.

KEYWORDS: Amphotericin B, chronic rhinosinusitis, nasal irrigation, nasal polyposis, nasal spray