

DEPENDENCE OF THE STATE OF SYSTEMIC AND LOCAL ADAPTIVE IMMUNITY ON RECURRENCE OF POLYPOUS RHINOSINUSITIS

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Abstract

The study of the state of the adaptive immune system in polyp rhinosinusitis (PRS) remains relevant to this day, because the constantly changing ideas about the main processes of immune inflammation inevitably affect the current views on the pathogenesis of PRS. The etiology and pathogenesis of PRS remain unclear. Many works in this direction did not change the situation. However, ideas about the pathogenesis of PRS have recently undergone significant changes, primarily due to advances in the field of clinical immunology of ENT diseases. In all theoretical views on the genesis of nasal polyps, the involvement of the immune system, especially the immune status of the nasal mucosa, plays a leading role.

Keywords. Chronic polyposis rhinosinusitis, sinus surgery, endoscopy, FESS operations.

Introduction

Taking into account the common pathogenetic mechanisms of the development of immune inflammation of the mucous membrane, the development of swelling and dysfunction of external breathing in asthma and PRS, it becomes clear that these are different manifestations of the same pathological process in different parts of the respiratory tract. Therefore, in accordance with the decisions of international consensus conferences, PRS is figuratively defined as "nasal asthma" using all the terms of modern immunology related to the immunopathogenesis of this process. Analysis of special literature and dissertation studies on the structure of the paranasal sinuses,



especially the ethmoid labyrinth, the role of genetic factors and bacterial biofilms in the development of chronic rhinosinusitis, the characteristics of the pathophysiological processes occurring in the cells of the ethmoid labyrinth. during ethmoiditis and in the body as a whole led to turning to various scientific sources at the intersection of different disciplines: rhinology, radiology, microbiology, allergology, genetics, cytology.

The purpose of the study

Frontal, maxillary and sphenoid sinusitis often begins with a pathological process in the cells of the ethmoid labyrinth. This clinical association is explained by the close anatomical connections between the frontal, maxillary, sphenoid sinuses and the ethmoid bone, as theories regarding its development place the ethmoid labyrinth in a strategic central position within the nasal complex [4].

Adaptive immunity

Recurrence of nasal polyps after nasal polypotomy is undoubtedly one of the most important aspects of the PRS problem. To date, the scientific basis of the recurrence of nasal polyps has not been developed and is not understood. Based on these rules, we analyzed our data on the state of adaptive immunity of patients with PRS according to relapses. The results of the analysis are presented in this part of the work.

As mentioned above, we examined 38 patients with PRS. 20 of them had recurrent polyposis, which is 52% of the total group. According to the history of the disease, the frequency of relapses varies from 1-2 to 6-7. Relapses occurred in 100% of patients with a disease duration of more than 5 years, 57% of cases from 1 to 5 years, and no relapses occurred in patients with a disease duration of up to 1 year. all. Interestingly, in the group of patients with eosinophilia more than 150 cells / μL , the relapse rate was three times higher than in patients with eosinophilia up to 150 cells / μL (81.6% vs. 30%). Regarding the pathomorphology of nasal polyps, differences were insignificant in patients with fibro-edematous type, there was a tendency to increase the frequency of relapses; It should also be noted that BA occurred only in patients with the recurrent type of PRS, that is, in 27.2% of cases.

In accordance with the material presentation plan adopted in this work, we first present ICH data on the composition of the inflammatory infiltrate. The density of CD-positive cells in the tissues of nasal polyps is shown depending on PRS relapses. It can be seen that there were no statistically significant differences between the groups of patients with or without relapses of nasal polyps in any parameter. In control preparations of intact mucosa, CD -positive cells ranged from isolated cases to their complete absence. It can be seen that the inflammatory process in PRS is accompanied by intensive infiltration of nasal polyp tissue with CD-positive cells, regardless of the recurrence of nasal polyps.

In the group of patients without recurrent nasal polyps, only the percentage of IgA-positive cells increased significantly, but compared to the group of patients with recurrent nasal polyps ($p < 0.05$), the fact of the recurrence of the disease is directly related to the reliable and significant inhibition of IgA-positive cells. At the same time, these data show the prospects of targeted stimulation of the functional activity of IgA-positive cells to correct changes in the adaptive



immune status of patients with PRS. In general, the increase in fluorescence and the number of IgA-positive cells in the peripheral blood of patients with PRS indicate the unconditional activation of this type of cells responsible for the formation of systemic and, in particular, local humoral immunity (sIgA). -positive cells). Regarding IgG- and IgM-positive cells, the changes in the studied properties of these cells were unreliable in both groups.

The relationship between the studied indicators is shown in the table. As can be seen from the table, in the group of patients with recurrent polyps, a significant negative strong correlation was found only with respect to CD 68+ cells. In the group of patients without recurrence of nasal polyps, a significant positive average correlation was found with respect to CD 8+ and CD 68+ cells, and in the latter case this relationship was accompanied by a significant increase in the level of these cells. in the blood compared to the control group. In other words, in the group of patients with non-relapsing PRS, there is a simultaneous increase in the level and functional activity of CD 68+ cells both in the peripheral circulation and in the inflammatory infiltrate in nasal polyps.

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