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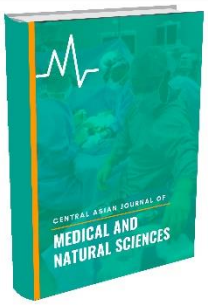

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IMMUNOMODULATORY THERAPY IN THE COMPLEX TREATMENT OF CHRONIC CYSTIC SINUSITIS

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ABSTRACT: In the pathogenesis of chronic inflammation of the paranasal sinuses, many authors attach a special role to the state of the immunological status of the body. The study of the General immunological status of the patient is of great importance for assessing the pathogenetic mechanisms that occur in chronic inflammation, including paranasal sinusitis. We examined 35 patients with chronic cystic sinusitis. The study of the General immunological status of patients was carried out by determining the T-and B-cell immunity by various tests. The data obtained in the course of the study allow us to conclude that immunological studies often provide reliable information that is important for the diagnosis and control of the effectiveness of complex treatment.

KEYWORDS: immunological status, cystic sinusitis, polyoxidonium.

INTRODUCTION

Relevance. Immune disorders in the development of infectious and inflammatory diseases of various organs and systems, including ENT organs, occupy an important place. Most allergic and infectious-inflammatory diseases of ENT organs are associated with the development of pathological processes in the upper respiratory tract mucosa, which delays and eliminates about 70% of aggressive antigen factors that are found in the external environment [1]. Chronic inflammatory processes in the mucous membrane of the respiratory tract lead to the suppression of local protective mechanisms and a decrease in the overall immunoreactivity of the body. The clinical course of the disease, its duration and the number of complications depends on the nature and degree of immune disorders [3].

In recent years, researchers have focused on identifying the role of local immune disorders in ENT diseases, with the greatest emphasis on humoral immunity factors.

Inflammatory pathology of the paranasal sinuses is one of the most urgent problems of otorhinolaryngology. In recent decades, the incidence of sinusitis has increased almost 3 times, while there is a clear trend to increase the frequency of recurrent and chronic forms of sinusitis[2]. In the pathogenesis of chronic inflammation of the paranasal sinuses, many authors attach a special role to the state of the immunological status of the body. The first barrier after the penetration of the antigen into the body is the mucous membranes (local immunity), and then the resistance mechanisms are included in the process - the production of interferon, lysozyme and complement, phagocyte activation and adaptive immune responses (specific protective factors of General immunity)[4]. Local immunity is an integral part of the overall immune system, which regulates the level of homeostasis in the body and protects it from the effects of antigens.

The study of the General immunological status of the patient is of great importance for assessing the pathogenetic mechanisms that occur in chronic inflammation, including paranasal sinusitis. According to the literature data based on clinical observations, the majority of patients with chronic rhinosinusitis have various deviations in the immunological status with the appearance of signs of secondary immunodeficiency [5]. This is evidence of the need to include immunomodulatory agents in the complex therapy of not only chronic rhinosinusitis, but also acute sinusitis in patients with risk factors for chronic inflammation (concomitant long-term chronic diseases and hypovitaminosis, allergic diseases, etc.)

Chronic rhinosinusitis is characterized by changes in all parts of the immune system. When the maxillary sinuses are affected by gram-positive cocci flora (S. aureus, S. epidermidis, S. pyogenes), significant changes occur in the cellular link of the mmunit. At the same time, there is a decrease in the number of T-helpers, and the leukocyte-T-lymphocyte index increases due to a deficit of T-lymphocytes. The greatest deviations of immunity were found in patients with chronic rhinosinusitis, in which the pathogens were associations of gram-positive and gram-negative pathogenic and opportunistic microorganisms. In patients, there was a decrease in cellular and humoral immunity, severe violations of the mechanisms of non-specific protection of the body[5].

Some authors in patients with chronic rhinosinusitis note a significant increase in the concentration of IgA, IgM in the blood serum; other authors, on the contrary, note a significant decrease in the level of IgA, IgM and IgG increase [2].

The purpose of this study is to determine changes in the overall immune status before and after complex treatment in patients with chronic cystic sinusitis.

Material and methods. We examined 35 patients with chronic cystic sinusitis. The study of the condition of the nose and paranasal sinuses was carried out by traditional and modern research methods. Modern research methods were carried out with the help of rigid endoscopes of the company "DELONGE". Endoscopic examination of the nasal cavity of the patients revealed that 11(31%) patients, there are changes ostiomeatal complex (OMC) — hypertrophy of the anterior end of middle turbinate, S-shaped changes of the middle turbinate, hypertrophy of the hamate bone, hypertrophy of cells of the ethmoid Bulla, a deviated septum.

Computed tomography (CT) revealed that in the group we studied, 23 patients (66%) had unilateral damage to the maxillary sinus and 12 patients (34%) had bilateral damage. The shape of the cysts was round or

semi-circular, with smooth edges with a density of 8 to 37 units. According to their location in the sinus, 65% of cysts were located on the lower wall, 27% on the medial wall, 5% on the posterior wall, and to the smallest extent (3%) on the front wall of the maxillary sinus. Analysis of the structures of the ostiomeatal complex confirmed the changes that were detected during endoscopy of the nasal cavity.

The study of the General immunological status of patients was carried out by determining T-and B-cell immunity by various tests determination of T-lymphocytes by spontaneous rosette formation with sheep red blood cells (E-ROC), determination of B-cells by rosette formation with sheep red blood cells in the EAS system, ELISA analysis of IgA, IgG, IgM)

All patients were divided into 2 groups, the main group (19 patients) and the control group (16 patients). Complex treatment of patients of the main group consisted of performing in addition to surgery, i.e. opening the affected maxillary sinus with endonasal access through the lower and middle nasal passages with the removal of cystic formation, immunomodulatory therapy with the drug for intranasal use of immunophan (polyoxidonium), antibacterial and symptomatic therapy. Patients in the control group received surgical, antibacterial and symptomatic treatment, and the drug Immunofan was not prescribed. The drug "Immunofan" has a pronounced clinically confirmed immunomodulatory activity, activates the body's protective factors in local and generalized infections, is effective against viral, bacterial and mycotic infectious agents, activates non-specific factors of mucosal protection, improves the state of local humoral immunity. The drug was used for 1 dose (50 mcg) in each nasal passage 2 times / day, daily for 10-15 days

The results and their discussion The evaluation of the effectiveness of our treatment was based on subjective and objective examination data, data on the immune status of patients. The results of the study were compared with each other and with the indicators of the control group both before and after the treatment started on the 10th and 20th days.

Complaints in patients of the main group consisted of a slight violation of nasal breathing and pain in the projection of the operated sinus in the first days after the operation, which was normalized by 4-6 days. In patients of the control group, compared to the main group, these symptoms were longer by 3-5 days.

The data of endoscopic examination of the antrostoma we created showed in both groups in the first 4-6 days after the operation the presence of obvious inflammatory manifestations, such as hyperemia and edema of the mucosa, mucosal or with blood discharge, but in the main group on day 10, these manifestations halved and almost completely disappeared on day 20 after treatment. While in the control group on day 10, these symptoms were present in most patients and on day 20, in a few cases, they remained obvious.

Table: 1 Changes in T - and B-cell immunological status indicators are normal

Indicators	indicators are normal	Major group	Control group

		Before treatment	On day 10	On day 20	Before treatment	On day 10	On day 20
T- lymphocytes	21-38%	24,2±3	32,2±6	36,1±2	22,1±2	25,1±2	27,1±2
B- lymphocytes	7-29,6%	14±3	18±3	19±3	15±3	16±3	19±3
Ig A	1,84 ± 0,36	1,12±0,05	1,21±0,04	1,45±0,05	1,16±0,05	1,18±0,04	1,2±0,04
Ig M	1,2 ± 0,3	1,1±0,3	1,2±0,3	1,2±0,5	1,1±0,3	1,1±0,3	1,1±0,4
IgG	11,4 ± 5,6	10±1,2	12±0,5	14±0,5	10±0,5	10±0,5	12±0,5

All patients before the operation, on 10 and 20 days from the start of treatment were conducted clinical and immunological studies as can be seen from the table above, patients in both groups have changes in the T - and B - cell immunological status. There is a decrease in the number of T-lymphocytes in the preoperative period and their subsequent normalization in the main group. In the postoperative period on day 10, immunological analysis revealed a noticeable increase in the level of IgG and IgM with its subsequent normalization on day 20 after therapy in the main group. In the control group, these indicators remained almost unchanged both on the 10th and on the 20th day after the start of treatment.

CONCLUSIONS

The data obtained in the course of the study allow us to conclude that immunological studies often provide reliable information that is important for the diagnosis and control of the effectiveness of complex treatment. The use of this research method allows us to control the effectiveness of the use of immune-regulating agents in the treatment of chronic rhino sinusitis.

Identifying the state of General immunity and establishing its changes is important both for choosing the method of adequate and rational therapy, and for developing ways to prevent these pathological processes.

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