COMPLEX TREATMENT OF CHRONIC ADENOIDITIS USING PROPOLIS TINCTURE AND PHOTOTHERAPY

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The relevance of the study lies in the fact that chronic inflammation of the lymphoid structures of the nasopharynx is a common problem in medical practice and can lead to relapses and complications in the middle ear. The peculiarities of the nasopharyngeal microbiota, anatomical and physiological features of the structure and the immunobiological state of the body play an important role in the development of this pathology [1,6]. Existing methods and remedies for the treatment of chronic inflammation of the adenoids are often ineffective. One of the reasons for this is a decrease in the body's resistance caused by improper use of antibiotics and reduced immune reactivity in children [3,5]. Respiratory viruses also play a role in the development and recurrence of inflammatory diseases in the nasopharynx. However, the role of respiratory viruses in patients with pharyngeal tonsil pathology has been poorly studied, and diagnostic and prognostic criteria for the complicated course of this pathology have not been determined [2,4].

The purpose of this study is to increase the effectiveness of the treatment of chronic adenoiditis by developing a therapeutic and diagnostic algorithm that will include the use of an optimal photodynamic therapy (PDT) scheme in combination with a drug of natural origin "Propolis Tinctures".

The results and their discussion. The analysis of anamnestic data revealed the following results: maternal smoking during pregnancy was observed with approximately the same frequency in patients of groups 1 and 2 (29.4% and 27.4%), and in group 3 - 21.1%. Patients of the second group were more likely to suffer from acute respiratory viral infections (86.2% versus 72.5% in group 1 and 78.8% in group 3). Family allergoanamnesis associated with allergic diseases was common in patients of the first and third groups (37.2% and 38.5%). The association between adenoiditis and acute respiratory viral infections prevailed in patients of the second and third groups (72.5%, 65.4% vs. 35.3%). ARVI suffered during pregnancy was observed with almost the same frequency (58.8%, 66.6% and 59.6%). The seasonality of patient complaints was also revealed: the largest number of cases is recorded in the autumn-winter period (40.6% - 43.2%), a smaller number in spring (17.5%), and in summer the number of cases is minimal (2%).

During pharyngoscopy, all patients revealed a runoff of pathological secretions in the posterior wall of the pharynx. Then, after a general otorhinolaryngological examination, a diagnostic examination of the nasal cavity and nasopharynx was performed using both rigid and flexible optical systems.

In all patients, the presence of a pathological secretion on the surface of the pharyngeal tonsil (PT) was found in 100% of cases. Pharyngeal tonsil edema was present with almost the same frequency in the three groups (86.3%, 82.4% and 78.8%, respectively). Grade III hypertrophy of the pharyngeal tonsil also occurred with the same frequency in all three groups (33.3%, 35.3% and 34.7%, respectively). The second degree of pharyngeal amygdala hypertrophy was almost equally common among patients of all groups (51.0%, 47.1% and 48.1%), while pharyngeal amygdala hypertrophy of the first degree was also observed with almost the same frequency in patients of the first group (15.7%), the second group (17.6%) and the third group (17.3%). The pharyngeal mouths of the

auditory tubes were visible and free in 66.6% of patients in the second group, 69.2% of patients in the third group, while only 47.1% of patients in the first group.

As a result of the analysis of the presented data on the otoscopic picture, it was revealed that pathological signs on otoscopy were more often observed in patients receiving standard conservative treatment. Exudate was found behind the eardrum in 35% of patients from the first group, 37% from the second group and 33% from the third group. Scarring of the eardrum was found only in patients of the first group. It should be noted that complaints of hearing loss were almost equally common in the three groups, amounting to 35.3%, 37.2% and 32.7%, respectively.

During the study, we conducted daily monitoring of the concentration of hydrogen ions (pH) of secretions on the surface of the mucous membrane in all patients using the calorimetric method described earlier. The results of this monitoring, including the mean square deviation, median and 25-75 quartiles, were recorded throughout the treatment.

Analysis of these results showed that at the beginning of the disease, the concentration of hydrogen ions in the nasal secretions varied both acidic and alkaline. We also found a correlation between the nature of the pathological process in the nasal cavity and changes in pH+ secretion. In the presence of purulent discharge as a result of inflammation of the nasal mucosa, the concentration of hydrogen ions shifted to the acidic side. On the contrary, in the presence of a serous mucosal discharge, the concentration of hydrogen ions was pronounced alkaline, and pH + reached 8.2.

For example, the first group of patients with a pronounced alkaline secretion (pH 8-8.2) included 6 people, and as a result, the indicators shifted to a more neutral side. However, from the data obtained, it can be noted that the normalization of the concentration of hydrogen ions occurred already by the 6th day of treatment and amounted to 7.23 ± 0.14. This had a beneficial effect on the functioning of mucociliary transport in the nasal cavity and paranasal sinuses, which is a key protective function of the nose.

At the first stage of treatment, group 1 patients received standard conservative therapy, including elimination therapy using seawater and intranasal antiseptic drops (2% protargol). In the presence of effusive otitis media (ESO), children were prescribed vasoconstrictors and electrophoresis with lidase. Efficacy was observed in 25 patients (16.2%), and in 11 cases (21.6%) conservative treatment did not help, and patients were referred for surgical treatment.

Of the 51 patients, 11 (21.6%) required nasopharyngeal surgery, including 6 (11.8%) cases of middle ear surgery. The criteria for surgical treatment of children from group I were grade III pharyngeal tonsil hypertrophy with exudative otitis media, grade II pharyngeal tonsil hypertrophy with exudative otitis media and grade III pharyngeal tonsil hypertrophy. Surgical procedures were performed under combined anesthesia and endoscopy control. The effectiveness of surgical treatment was assessed based on complaints and clinical symptoms, research results and catamnesis. After surgery, there was a general improvement in nasal breathing and hearing. In patients undergoing adenotomy, type "A" was observed in the tympanogram. After a year in the catamnesis, all parents reported a decrease in inflammatory diseases of the nasopharynx and middle ear, as well as the restoration of hearing in children. Patients who received only conservative treatment experienced a recurrence of adenoiditis within a year after recovery and in the following 12 months.

Taking into account the conducted study of patients of the first group, we analyzed the data and applied them to the treatment of patients of the second group. When prescribing treatment, we took into account the features of adenoiditis of bacterial etiology identified earlier. Antimicrobial agents, including topical antibiotics, and other medications were used in the treatment of patients.

Group 1: 40 patients (age 7 months - 16 years) received antibacterial therapy using framycetin sulfate (Isofra) at a dosage of 1 dose endonasally 3 times a day. 8 patients from this group were diagnosed with exudate on the surface of the pharyngeal tonsil.

Group 2: 51 patients (age 7 months - 16 years) received the same therapy as group 1, and also used propolis tincture: lubrication of the mucous membranes of the pharynx and tonsils 2-3 times a day (children 8-16 years old) and inhalation with a mixture of propolis tincture and water in a ratio of 1:20, 1-2 times a day (children under 7 years old).

Group 3: received the same therapy as group 2, but also underwent photodynamic therapy.

All patients were also prescribed drugs for elimination-irrigation therapy, including isotonic solutions of seawater, choosing the form of delivery depending on the patient's age. Decongestants were also prescribed to patients with effusion in the middle ear and endaural electrophoresis with lidase, blowing of the auditory tubes using the Politzer method and pneumatic massage of the eardrums were performed. The course of treatment lasted 7 days.

The effectiveness of treatment was assessed by symptoms: difficulty in nasal breathing, discharge on the surface of the pharyngeal tonsil, runoff along the back wall of the pharynx, hyperemia of the mucous membrane of the pharyngeal tonsil, cough. The assessment was carried out before the start of treatment and on the 3rd, 5th and 7th days after the start of treatment using a 4-point scale (0 - no symptoms, 1 - mild symptoms, 2 - moderate symptoms, 3 - severe symptoms).

In patients of three groups, there was a decrease in purulent and mucopurulent discharge on the surface of the pharyngeal tonsil and the posterior wall of the pharynx by the third day of treatment. By the end of the course of treatment, all patients in group 3 had no purulent and mucopurulent discharge on the surface of the pharyngeal tonsil. In group 2, the majority of patients (98.1%) also had no discharge on the surface of the pharyngeal tonsil. However, in group 1, 10% of patients retained purulent discharge, and 70% of patients completely lacked all symptoms. The change in the endoscopic pattern during 7 days of treatment is shown on the graph.

In all groups, there is a significant improvement in the condition of the mucous membrane of the pharyngeal tonsil. The hyperemia detected before the start of treatment decreases to 35%, 35.3% and 38%, respectively. By the 7th day of the disease in group 1, 75% of cases completely restore their normal condition, 27.5% of patients have moderate hyperemia, and 2.5% have severe hyperemia. In group 2, 90.2% of cases completely restore the condition of the mucous membrane, 7.8% have moderate hyperemia, and one patient has severe hyperemia. In group 3, the best results were achieved: complete recovery was observed in 96.1% of patients, only two patients had moderate hyperemia of the pharyngeal tonsil mucosa.

The results of treatment in the three groups of patients presented in the table show statistically significant differences in the duration of symptoms, which allows a comparative analysis of the effectiveness of therapeutic effects. Group 3 is characterized by the shortest duration of nasal breathing difficulty (3.2±0.38 days) compared with Group 1 (4.67±1.38 days) and Group 2 (3.5±1.01 days). In addition, Group 3 also demonstrates a shorter duration of discharge (mucous/mucopurulent) on the posterior wall of the pharynx and on the surface of the pharyngeal tonsil (3.3±1.31 days) compared with Group 1 (4.3±1.31 days) and Group 2 (3.7±1.6 days). Endoscopic changes are also more quickly removed in Group 3 (1.9±1.2 days) compared to Group 1 (3.9±1.2 days) and Group 2 (3.1±2.04 days). In addition, the duration of coughing or coughing is also significantly reduced in Group 3 (3.1±1.4 days) compared with Group 1 (5.1±1.4 days) and Group 2 (4.4±1.3 days). These results confirm the effectiveness of the proposed treatment in Group 3 and indicate the high effectiveness of therapeutic effects in this category of patients. However, there were no statistically significant differences between the groups for the parameter "Discharge along the back wall of the pharynx and on the surface of the GM" ($p > 0.05$).

The results of the analysis of the occurrence of bacteria in three groups of patients showed the following. Staphylococcus aureus, Streptococcus pneumoniae and Haemophilus influenzae were the most common in monocultures. Group 1 had a higher incidence of Staphylococcus aureus (3 cases),

Haemophilus influenzae (3 cases) and Klebsiella pneumoniae (2 cases). Group 2 was distinguished by the presence of Streptococcus viridans (1 case). In associations of microorganisms (2 pathogens), group 2 was distinguished by the presence of Staphylococcus aureus + Klebsiella pneumoniae (1 case), and group 1 - Staphylococcus aureus + Streptococcus viridans (1 case). Group 3 had only 1 case of Staphylococcus aureus. There were no statistically significant differences in the associations of microorganisms (3 pathogens). The analysis indicates differences in the composition of microorganisms in each group. Thus, the use of propolis tincture in combination with photodynamic therapy in the third group demonstrates the best results among all three groups.

Conclusion. It should be noted that the results of this study are based on a small sample of patients and require confirmation in larger studies. In addition, the effectiveness of propolis tincture and photodynamic therapy may vary depending on the individual characteristics of patients.

In general, this study indicates the potential usefulness of propolis tincture in combination with photodynamic therapy in the treatment of chronic adenoiditis, especially in patients with certain microbial compositions. However, before making a decision on treatment, it is necessary to consult with a doctor in order to assess the benefits and risks of this approach in an individual case.

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