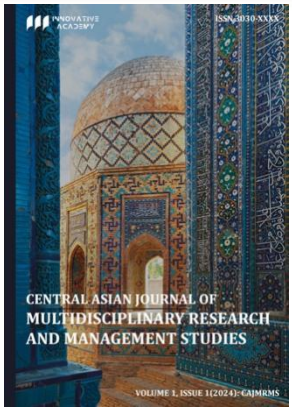

TO INVESTIGATE THE EFFECT OF PHOTOTHERAPY ON CHRONIC ADENOIDITIS IN CHILDREN

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https://doi.org/10.5281/zenodo.15183978

ARTICLE INFO

Received: 31th March 2025
Accepted: 4th April 2025
Published: 9 th April 2025

KEYWORDS

ABSTRACT

Treatment of chronic adenoiditis (CHA) is an urgent problem of childhood rhinology. Medical and social significance is due to both the increase of up to 60% in the last decade of morbidity and the associated economic costs, and the role of the pharyngeal tonsil (PT) in the formation of mucosal immunity, which protects not only the nasopharynx, but also the nasal mucosa, rhinotubar zone and paranasal sinuses [1,3].

Chronic pathology of PT with its hypertrophy and rhinosinusitis, tubotites, chronic tonsillitis close the "vicious circle", being one of the factors in the formation of a contingent of frequently ill children [4,6]. This is also facilitated by slowing down the age-related reduction of adenoid vegetations [2,5]. Despite the apparent simplicity of diagnosis and treatment, many issues related to the etiology and pathogenesis of CHA remain debatable.

The aim of the study. To evaluate the clinicofunctional effectiveness of complex therapy of chronic adenoiditis in children using phototherapy.

Results and their discussion. In group I, 22 patients (73.3%) completed treatment with the result of "recovery", 8 people (26.7%) "improvement". In group II, recovery was achieved in 10 people (25%), improvement – in 28 (70%), without effect – in 2 (5%) - in these children, relapse occurred less than 2 weeks after discharge. According to the immediate results, the proportion of recoveries in patients receiving ultrasound treatment is 2.58 times greater than with the traditional method.

Dynamics of the most significant subjective symptoms - nasal congestion, nasal discharge, mucus draining into the nasopharynx, ear congestion, snoring with various types of treatment by the second visit, most of the children of group I, their parents noted a significant improvement in all symptoms, while in group II, distinct positive changes appeared only by the 3rd-4th visits (5-7 days). On the third day (visit 2), nasal congestion was present in a smaller number of group I children, and its severity decreased by 2 times, by the 3rd and 4th visits, the number of complainants and the severity of the complaint was halved each time, disappearing in the 5th visit. In group II, by the 2-3 visits, this indicator has not changed significantly either quantitatively or qualitatively. The severity of the complaint significantly decreased by half only by the 4th visit, and by another half by the 6th visit.

The children of group I showed better dynamics by the 2nd visit by 1.5 times, by the 3rd and 4th visits by 2.7 times, by the 5th - by 4 times than in group II. After 2 weeks from the start of treatment, the indicators differed 17 times.

Nasal discharge in group I was complained of 2 times by the 3rd visit, and by the 4th - 7 times fewer children than during the initial treatment, by the 5th visit the complaint persisted in isolated cases (5% of children,). The severity of the complaint also decreased: not sharply by the 2nd visit, and rapidly decreasing in the following days by 8 times by the 3rd visit and almost 10 times by the 4th visit. Parents, as a rule, clearly noted that the child gets better quickly during treatment, but nasal discharge persists at first, and in some children it increases.

A characteristic indicator of the effectiveness of laser photodynamic treatment is the discharge in the nasopharynx and in the nasal cavity. If during the initial treatment with endoscopy, a purulent discharge was mainly determined in the nasopharynx (49%), and in 22% of cases there was no discharge in the presence of pronounced edema of PT, then after two days by the second visit, the picture changed dramatically: the number of patients with purulent discharge decreased 2.7 times to 18.4%, and the number of children with mucous the number of children with the absence of discharge in the nasopharynx and edema of PT also decreased by 2.3 times (up to 9.5%).

Within a year after treatment, a single relapse of the disease was recorded in 2 people (6.7%), 3 girls. In 4 children, relapse occurred 2-3 months after treatment, in 2 - after 5 months and in 4 - after 8-10 months. In addition, 3 children during the entire observation period had a single episode of acute MS and adenoiditis 13 and 14 months after the treatment, and 2 children who had a single exacerbation of CHA, MS at 9 and 10 months after treatment, suffered acute MS at 21 and 36 months. One child was treated with acute MS, adenoiditis after 22 months. We did not regard these episodes as a relapse of the disease, because for a long time – a year or more – no pathology was recorded in children.

In group II, the majority of patients had stable results in the first month, but negative dynamics began to be observed within half a year. Relapse was noted in 13 children (32.5%), 8 girls and 24 boys. There were 26 children aged 2 to 5 years, and 6 more at the age of 10-12 years, which is apparently associated for younger children with the preservation of large sizes of adenoids, and for older children with an increase in ONP and a late age reduction of adenoid vegetations. In addition, 2 children aged three years, despite the adenotomy, had a relapse of the disease.

An important indicator of treatment was the condition and degree of hypertrophy of A B. The slow reduction of PT in group I children, which appeared by the 2nd control (after 3 months), turned out to be stable, and after a year PT reached an average of 1.51±0.11 degrees, regardless of age, which indicates a break in the vicious circle of "purulent adenoiditis – purulent rhinosinusitis." After 2 years, PT decreased to 1.42 ± 0.32 degrees, after 3 or more – 1.36 ± 0.48. Initially, our goal was to scan the ENT organs of these children and prepare them for surgical treatment. According to the analysis of long-term results, most of them had a decrease in PT and the cessation of exacerbations of heart disease, otitis media. This made it possible to abandon surgical tactics and continue dynamic observation. Within 3 years after treatment, adenotomy was offered to 13 and performed on 12 children (1 of them - adenotonsillotomy), which was 6.3%.

Pathological changes in the GM, nasal cavity, and ONP were accompanied to varying degrees by pronounced functional disorders, primarily respiratory. In most patients, nasal obstruction was moderate, but about a third of children under 5 years of age had indicators of the total volume flow of SOP below 90 cm3/s. The severity of the changes also depended on age; at the beginning of treatment, a group of 6-7-year-olds showed more pronounced disorders.

The total resistance (SS) did not have large age differences, which, apparently, characterized precisely the degree of increase in GM, which is the main obstacle and causes nasal obstruction to a greater extent than swelling of the nasal mucosa. With comparable PARM indicators at the beginning of treatment, in group I, SOP normalized quickly, almost after the first procedure, which contributed to the adherence of patients and their parents to the phototherapy type of treatment.

In general, in group I, by the 3rd visit, the SOP indicator reached the age norm and improved 1.6 times in children under 5 years old, and 2 times in children over 5 years old, showing significantly 34 times better results than in group II patients ($p< 0.05$), in of which the increase was only 9-23%, depending on age. At the same time, differences in SOP before and after treatment in children under 5 years of age in group II were not significant ($p=0.6$). In terms of reducing the total resistance to air flow, the children of group I also showed 20 times better results, having a decrease in CC by 30-45% depending on age, while in group II this indicator decreased only by 4-6% and had no significant differences before and after treatment ($p< 0.05$).

In children receiving standard treatment, the size of adenoid vegetations also decreased, but not enough, and repeated episodes of MS against the background of persistent XA phenomena

subsequently led to adenotomy, which was performed in 13 children (32.5%) during the 1st year of follow-up.

Conclusion.

1. The use of the method of complex low-frequency ultrasound therapy of chronic adenoiditis with rhinosinusitis in children reduces the duration of treatment by 40%, increases its effectiveness by 4 times and increases the proportion of recoveries 3 times for immediate and 4 times for longterm results compared with traditional treatment.

2. The use of photodynamic therapy in the complex therapy of chronic adenoiditis eliminates tubar dysfunction and snoring 5 times faster and normalizes nasal breathing 3 times faster than with traditional treatment, improving the indicators of anterior active rhinomanometry in total volume flow 4 times, and in total resistance 20 times, which indicates adequate inclusion of hypertrophied pharyngeal tonsil to the zone of therapeutic effect of the new method.

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