



## EFFECTIVENESS OF ENDOSCOPIC ULTRASOUND DISENTIGATION IN HYPERTROPHIC RHINITIS AND ENT PATHOLOGIES

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<https://doi.org/10.5281/zenodo.14697814>

### ARTICLE INFO

Received: 12<sup>th</sup> January 2025

Accepted: 18<sup>th</sup> January 2025

Online: 18<sup>th</sup> January 2025

### KEYWORDS

*Hypertrophy, correction, auditory tube, ultrasonic disintegration, microdrebidor, manipulation.*

### ABSTRACT

*This article discusses the pathologies and dysfunctions of the nasal turbinates, auditory tube. In it, 22 patients aged 7 to 18 years were examined endoscopically for inferior turbinate hypertrophy and auditory tube pathologies and corrected using special ENT manipulative devices through endorhinoplasty. In addition, ultrasonic disintegration was performed for inferior turbinate hypertrophy and data on the results of processing the auditory tube orifice using microdrebidores using sharp, impassable ways were provided.*

## ЭФФЕКТИВНОСТЬ ЭНДОСКОПИЧЕСКОЙ УЛЬТРАЗВУКОВОЙ ДЕЗЕНТИГРАЦИИ ПРИ ГИПЕРТРОФИЧЕСКОМ РИНИТЕ И ПАТОЛОГИЯХ ЛОР-ОРГАНОВ

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<https://doi.org/>

### ARTICLE INFO

Received: 12<sup>th</sup> January 2025

Accepted: 18<sup>th</sup> January 2025

Online: 18<sup>th</sup> January 2025

### KEYWORDS

*Гипертрофия, коррекция, слуховая труба, ультразвуковая дезинтеграция, микродреидор, манипуляция.*

### ABSTRACT

*В статье рассматриваются патологии и дисфункции носовых раковин и слуховых труб. В ходе исследования 22 пациента в возрасте от 7 до 18 лет были обследованы эндоскопически на предмет гипертрофии нижних носовых раковин и патологии слуховой трубы, а также проведена эндориноурологическая коррекция с использованием специальных ЛОР-манипуляционных инструментов. Кроме того, была проведена ультразвуковая дезинтеграция при гипертрофии нижних носовых раковин, а также приведены сведения о результатах обработки отверстия слуховой трубы острым непроходимым микросверлом.*

**GIPERTROFIK RINIT VA ESHITUV NAYI PATOLOGIYALARIDA ENDOSKOPIK  
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<https://doi.org/>**ARTICLE INFO**Received: 12<sup>th</sup> January 2025Accepted: 18<sup>th</sup> January 2025Online: 18<sup>th</sup> January 2025**KEYWORDS***Gigertrofiya, korreksiya, eshituv nayi, ultratovushli dezintegratsiya, mikrodrebidor, manipulyatsiya.***ABSTRACT**

*Ushbu maqolada burun chig'anoqlari, eshituv nayi patologiyalari, funksiyalarining buzilishi to'g'risida fikr yuritilgan. Unda 7 yoshdan 18 yoshgacha bo'lgan 22 ta bemorda pastgi chig'anoq gipertrofiyasi va eshituv nayi patologiyalari endoskopik tekshirilib maxsus LOR manipulyatsion asboblar bilan endorinoxirurgik yo'l orqali korreksiya qilindi. Bundan tashqari pastki chig'anoqlar gipertrofiyasida ultratovushli dezintegratsiya o'tkazildi va o'tkir, o'tmas yo'llar bilan mikrodrebidor yordamida eshituv naylari teshigiga ishlov berilishi va natijalari borasida tahlillar asosida ma'lumotlar berilgan.*

Rhinitis is one of the most common pathologies, which are equally often detected in both women and men. The most characteristic symptoms of rhinitis of various origins, including hypertrophic and vasomotor, are impaired nasal breathing, rhinorrhea (secretion from the nasal passages), sneezing combined with poor odor discrimination and recurring headaches. Insufficiency or lack of proper nasal breathing affects the proper functioning of various body systems (heart and blood vessels, respiratory organs, etc.), and also negatively affects overall well-being, leading to a deterioration in the quality of life and impairment of a person's ability to work. Recently, there has been an increase in cases of chronic hypertrophic inflammation of the mucous layer lining the nasal cavity in adults. In the structure of otolaryngological diseases, they account for 4 to 20%. Treatment of this pathology is carried out mainly by surgical methods, because Conservative therapy does not bring the expected results.

Hypertrophy of the nasal turbinates (HNT) in combination with pathology of the orifice of the auditory tubes (UST) is one of the most common pathologies of the nasal cavity, nasopharynx and accounts for 12-34% of the total number of ENT diseases. The consequence of impaired nasal breathing, tubal dysfunction is the development of pharyngitis, sinusitis, tonsillitis, conductive hearing loss and exudative otitis media. In advanced cases, the process is accompanied by adhesive and cicatricial changes. In traditional ENT practice, diagnostics, and especially treatment of hypertrophy of the nasal turbinates and the orifice of the auditory tubes presented certain difficulties associated with the impossibility of objective visualization.

The capabilities of modern endoscopy have significantly improved the quality of diagnostics and surgical treatment of hypertrophy of the nasal turbinates UST using an



endoscope; the doctor can more closely monitor the entire process of the operation on the monitor screen, which significantly improves the results.

**Purpose of the study.** To improve the efficiency of diagnostics of hypertrophic rhinitis and pathology of the auditory tube orifice using endoscopic diagnostics, as well as to improve the results of a single-stage operation.

Symptoms of hypertrophic rhinitis tend to recur continuously. The main complaint of patients is persistent nasal breathing disorder of varying severity. In second place are complaints of mucous nasal discharge. It can be scanty, moderate or abundant. Every second patient complains of decreased sense of smell. Sneezing bothers every tenth person. In addition, patients may complain of a feeling of irritation, discomfort and pain in the throat, coughing mainly in the morning.

The etiological factors of hypertrophic rhinitis are varied, the main causes are disruption of the nasal cavity architecture (deviation of the nasal septum, spines and ridges), the presence of inflammatory diseases of the nose and paranasal sinuses, most often of an infectious nature.

In recent decades, intracellular bacterial microorganisms, including *Mycoplasma pneumonia* (*M. pneumonia*), have been considered as an infectious cause of hypertrophic rhinitis. *Mycoplasmas* are gram-negative bacteria that do not have a cell wall and are true energy and metabolic parasites. Infection occurs through the respiratory tract (airborne and airborne dust mechanisms). In some cases, contact-household transmission can be realized (through contaminated hands, household items).

To diagnose hyperplastic rhinitis, it is necessary to conduct a comprehensive examination of the patient. First, the doctor conducts a detailed survey to collect all possible complaints and anamnesis data. This is followed by an objective examination, including anterior and posterior rhinoscopy. If more detailed information is needed, doctors conduct video endoscopy, which allows examining the nasal passages with an endoscope.

A laboratory examination is also carried out, including a general clinical blood test. If there is a suspicion of an infectious nature of rhinitis, bacteriological culture of smears is carried out. To exclude pathologies of the paranasal sinuses and assess the condition of the skeletal structure of the nose, X-ray or computed tomography may be prescribed.

If there is a suspicion of concomitant pathology, then consultations with specialized specialists, such as a neurologist, pulmonologist or therapist, are carried out. Thus, a comprehensive examination will help doctors more accurately determine the causes and nature of hyperplastic rhinitis and choose the most effective treatment.

**Materials and methods.** In the ENT department of the Samarkand regional multidisciplinary children's center, from 2022 to 2024, 22 children aged 7 to 18 years with hypertrophy of the nasal turbinates and pathology of the UST were treated, including 14 (63.6%) boys and 8 (36.4%) girls. All 22 patients were divided into 2 groups. The control group (CG) consisted of 12 patients with GNR and UST, who were treated using the traditional method (partial conchotomy and enucleation of the UST). The main group (MG) consisted of 12 patients with GNR and UST, who underwent correction of the pathology using methods in minimally invasive endorhinosurgery. All patients underwent standard examination of ENT organs, clinical and laboratory examination. The main method of diagnosing pathology of the nasal cavity, UST was video endonasopharyngoscopy. For endoscopic diagnostics and treatment, we



used an endoscope (viewing angle from 00, 300, 700) of the CHANMED company with a television installation (made in Korea).

The use of an endoscope at the diagnostic stage allowed us to obtain objective information about the condition of the mucous membrane of the nasal cavity, nasopharynx, direct observation of hypertrophy of the nasal turbinates, allowed us to judge the form, volume of hypertrophy that were the cause of narrowing of the nasal passages, as well as hypertrophy of the tubular tonsils, the cause of dysfunction of the auditory tubes. Endoscopic examination of the mucous membrane of the nasal cavity, nasal turbinates and the orifice of the auditory tubes was carried out for all patients in a sitting position. For more distinct detection of various forms of chronic hypertrophic rhinitis and pathology of the orifice of the auditory tubes, accessible areas of the mucous membrane were cleared of mucus using an electric suction pump. Then, with a light touch of a cotton swab, a 1% solution of adrenaline was applied to the cleaned surface of the lower and middle nasal turbinates. Examination with an endoscope was carried out under local anesthesia with a 2% solution of lidocaine inserted 3 times per minute.

Endoscopic examination took an average of 3-5 minutes. All patients had hypertrophy of the inferior nasal conchae, combined with pathology of the UST, which led to aggravation of the disorder of nasal breathing and the function of the auditory tubes. Correction of the identified pathology was carried out by the endorhinosurgical method and the study of special ENT manipulation instruments. The operations were carried out on a planned basis under general intubation anesthesia with controlled breathing.

**Results and discussion.** Endonasopharyngoscopic examination provided complete visualization of the nasal cavity, which allowed to identify any lesions of the nasal turbinates, the area of the auditory tube orifice, and visualize their extent and boundaries. In addition, objective information was obtained on the condition of the nasopharyngeal mucosa and lymphoid tissue. Direct observations allowed us to identify hypertrophy of adenoid tissue, which was the cause of mechanical occlusion of the pharyngeal orifice of the auditory tubes in 14 (41.1%) patients.

Hypertrophy of the tubal tonsils was detected in 7 (20.5%) children. Three (8.8%) patients were found to have choanal polyps that were not diagnosed without visualization, and two (5.8%) were found to have lobular juvenile angiomyoma. In all patients, UST pathologies were combined with hypertrophy of the inferior turbinates. Which led to worsening of the function of the nose and auditory tubes.

Dysfunction of the auditory tube caused conductive hearing loss of the first degree in 5 (14.7%) patients, exudative otitis media in 2 (5.8%), and recurrent otitis media in 1 (2.9%) patient. The choice of surgical tactics depends on the nature of the identified pathology. In patients with hypertrophy of the nasal turbinates, before the interventions, the nasal mucosa of the patients was lubricated with a 2% Lidocaine solution with the addition of a 0.1% Adrenaline solution. Infiltration into the thickness of the inferior turbinate was carried out with 5 ml of a 1% novocaine solution with 5 drops of a 0.1% Adrenaline solution. After general and local anesthesia, ultrasonic disintegration was performed by introducing with jerky movements into the area of the anterior end of the inferior turbinate to its posterior section and withdrawing it outward with the same movements. After this, the place of application of the disintegrator was welded with rotational movements of the disintegrator.



In case of hypertrophy of the tubular tonsils, their enucleation was performed with subsequent dilation with a microdebrider through an endoscope. In patients with hypertrophy of adenoid tissue, Beckman's adenotome was performed under endoscopic control, which ensured complete removal of adenoid tissue. Choanal polyps were removed with a polypotome. Removal of juvenile angiofibroma was performed using an open approach according to Moore. Performing operations by the endoscopic method or under endoscopic control allowed achieving good hemostasis. For this purpose, a coagulator was used in some cases. Early complications were not observed.

**Conclusions.** In order to prevent the development of hypertrophic rhinitis, it is necessary to pay attention to the general health of your body. In this case, it is recommended to lead an active lifestyle, eat right, do breathing exercises, harden yourself and spend time at sea and mountain resorts. It is also important to promptly treat ENT diseases, which may be of an infectious and inflammatory nature.

If you have an increased allergic reaction to certain substances, you need to reduce contact with them to a minimum. You should pay attention to living and working conditions, especially if your work is associated with harmful substances or dust. In this case, use effective means of protection or consider changing activities. In addition, favorable microclimatic conditions in residential premises have a positive effect on the condition of the upper respiratory tract.

Thus, the use of endonasopharyngoscopy, endorhinosurgery is an effective, minimally invasive technique, making it possible to choose the optimal option for interventions on the GNR and UST with the maximum possible preservation of the remaining parts of the nasal cavity of the nasopharynx.

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