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# MORPHOLOGICAL FEATURES OF THE TONGALES IN CHRONIC TONSILLITIS

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**Abstract.** Chronic tonsillitis (CT) - is a long-term inflammation of the pharyngeal and palatine tonsils, is a classic example of a focal infection based on the development of a focus of chronic inflammation as a result of the prolonged presence of infection and the reaction to it. The study of morphological features is very relevant, since chronic tonsillitis has a high prevalence among both adults and children. This review article is devoted to the study of the morphological features of the tonsils in chronic tonsillitis. Patients of all age groups suffer from chronic diseases of the pharynx and, in particular, chronic tonsillitis.

**Keywords:** chronic tonsillitis, tonsils, toxin.

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# МОРФОЛОГИЧЕСКИЕ ОСОБЕННОСТИ МИНДАЛИН ПРИ ХРОНИЧЕСКОМ ТОНЗИЛЛИТЕ

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**Аннотация.** Хронический тонзиллит (ХТ) — это длительное воспаление глоточной и нёбных миндалин, является классическим примером очаговой инфекции, в основе которой лежит развитие очага хронического воспаления в результате длительного присутствия инфекции и реакции на него. Изучение морфологических особенностей представляет весьма актуальным, так как хронический тонзиллит имеет высокую распространенность как среди взрослых, так и среди детского возраста. Данная обзорная статья посвящена изучению морфологических особенностей миндалин при хроническом тонзиллите. Хроническими заболеваниями глотки и, в частности, хроническим тонзиллитом страдают пациенты всех возрастных групп.

**Ключевые слова:** хронический тонзиллит, миндалина, токсин.

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## INTRODUCTION

The problem of tonsillary disease is a priority in otorhinolaryngology due to the wide spread of chronic tonsillitis among various population groups [8].

The importance of the issue of diagnosing tonsillitis and its causes is also emphasized by the increase in the incidence, which has been observed over the past few years. WHO statistics show that up to 40% of patients in the world suffer from tonsillitis, of which 10 to 15% are adults and about 20–25% are children [4].

Chronic tonsillitis is more common in people with weakened immune systems.

The prevalence of chronic tonsillitis is so great that considering this problem, we must talk about the impact of the disease on the health of the nation as a whole.

Tonsillitis in adults often leads to damage to the kidneys (tonsillorenal syndrome) and the heart (tonsillocardial syndrome). This is due to the fact that infectious-toxic factors that damage internal

organs enter the body from the palatine tonsils. Streptococcus, for example, produces a toxin that can cause myocardial dystrophy and heart disease or rheumatism. In addition, purulent content that enters the gastrointestinal tract from the lacunae of the tonsils can provoke dysbacteriosis.

Therapeutic tactics, on which the treatment of tonsils depends, depends on the form of the disease, the degree of dysfunction of the palatine tonsils and the presence of diseases associated with chronic tonsillitis.

## THE PURPOSE

The purpose of the work: to study and summarize the available literature data on the prevalence and morphological features of the tonsils in chronic tonsillitis.

## MATERIAL AND METHODS

The author of this review article conducted a literary review of scientific papers from the search engines eLIBRARY, elpub and GOOGLE ACADEMY for the above keywords.

Main part. Chronic tonsillitis (CT) is an infectious disease with localization of the focus of inflammation mainly in the palatine tonsils [2]. In a quantitative assessment of the results of the study of biocenosis of the mucous membrane of the tonsils in patients with chronic tonsillitis, it was found that the total index of microbial contamination (PMO) of the mucous membrane of the tonsils before treatment was 107 CFU / ml. Negative cultures were not recorded. At the same time, the spectrum of pathogens isolated from the surface of the mucous membrane of the palatine tonsils showed that out of 144 strains of microorganisms77, which amounted to 53.5%, they had hemolytic activity [1, 6].

## RESULTS

As a result of the research, it was found that the same form of the disease can be accompanied by different types of structural restructuring of the tonsils, which may have an impact on the clinical manifestations of the disease and is associated with its prognosis. At the same time, it was found that operated patients with low clinical efficacy of antibiotic therapy and preserved in vitro sensitivity of the isolated microflora to antibiotics in the removed tonsils had a similar pathomorphological picture.

In the epithelial layer of the surface of the tonsils, in addition to areas of infiltration of the epithelium, areas of its thinning or complete desquamation were very often recorded, less often - areas with the replacement of the integumentary epithelium with scar tissue. The data obtained allow us to recommend the study of the morphological structure of the removed tonsils to clarify the issues of pathogenesis, clinical course and prognosis of the disease [1].

Also, when conducting an immunohistochemical study with markers of proliferation and anti-apoptosis, an increase in the proliferative and anti-apoptotic activity of lymphoid tissue cells in chronic tonsillitis of a simple form and a significant decrease in these indicators in chronic tonsillitis of toxic-allergic forms of the 1st and 2nd degree were revealed [3]. The study of the microbial landscape on the surface of the palatine tonsils in chronic tonsillar pathology before the start of therapy did not reveal significant differences in the species and quantitative composition of the microbiocenosis of the mucous membranes in patients [10].

Scientists have analyzed the effectiveness of the treatment of staphylococcus in the palatine tonsils using Raman spectroscopy (RS). Based on the studied articles, spectral changes were established in the treatment of palatine tonsils with the antibiotic Amoxiclav. It was shown that at an antibiotic dosage of 500 mg/10 ml, the lines disappear at wave numbers 735 cm-1 and 783 cm-1, 986 cm-1 and 1635 cm-1, corresponding to adenine, cytosine, proteins and amide I, which indicates the effectiveness treatment [9].

In connection with the foregoing, a proper clinical examination of healthy individuals and patients with the detection of chronic pathology of the pharynx, as well as carrying out activities related to the activation of body resistance factors and aimed at observing sanitary and hygienic norms of work and life, which will reduce the percentage of vegetation of microbial flora among members of construction teams [7].

Thus, the data of the clinical study indicate that the determination of the microbial flora of the palatine tonsils in chronic tonsillitis in specific conditions is not of decisive importance. At the same time, specific production and living conditions

of the external environment can affect the relationship between macro- and microorganisms, to a certain extent determining the significance of the latter in the pathogenesis of chronic tonsillitis. The dependence of the probability of occurrence of additional cases of respiratory diseases (up to 500 cases per 1,000 children per year) on the content of suspended solids, fine fractions PM10, PM2.5, nitrogen dioxide, aluminum, manganese, solid and gaseous fluorides, chrome [5].

## CONCLUSION

The data obtained allow us to recommend the study of the morphological structure of the tonsils to clarify the issues of pathogenesis, features of the clinical course and prognosis of the disease.

## CONFLICT OF INTERESTS

The authors declare the absence of obvious and potential conflicts of interest related to the publication of this article.

## SOURCES OF FUNDING

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## AVAILABILITY OF DATA AND MATERIALS

All data generated or analysed during this study are included in this published article.

## AUTHORS' CONTRIBUTIONS

All authors contributed to the design and interpretation of the study and to further drafts. All authors read and approved the final manuscript.

## ETHICS APPROVAL AND CONSENT TO PARTICIPATE

All applicable international, national, and/or institutional guidelines for the care and use of animals were followed.

## CONSENT FOR PUBLICATION

Not applicable.

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Авторы заявляют, что данная работа, её тема, предмет и содержание не затрагивают конкурирующих интересов.

## ИСТОЧНИКИ ФИНАНСИРОВАНИЯ

Авторы заявляют об отсутствии финансирования при проведении исследования.

## ДОСТУПНОСТЬ ДАННЫХ И МАТЕРИАЛОВ

Все данные, полученные или проанализированные в ходе этого исследования, включены в настоящую опубликованную статью.

## ВКЛАД ОТДЕЛЬНЫХ АВТОРОВ

Все авторы внесли свой вклад в подготовку исследования и толкование его результатов, а также в подготовку последующих редакций. Все авторы прочитали и одобрили итоговый вариант рукописи.

## ЭТИЧЕСКОЕ ОДОБРЕНИЕ И СОГЛАСИЕ НА УЧАСТИЕ

Были соблюдены все применимые международные, национальные и/или институциональные руководящие принципы по уходу за животными и их использованию.

## СОГЛАСИЕ НА ПУБЛИКАЦИЮ

Не применимо.

## ПРИМЕЧАНИЕ ИЗДАТЕЛЯ

Журнал *"Евразийский журнал оториноларингологии - хирургии головы и шеи"* сохраняет нейтралитет в отношении юрисдикционных претензий по опубликованным картам и указаниям институциональной принадлежности.

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