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CLINICAL FEATURES OF VASOMOTOR RHINITIS IN THYROTOXICOSIS

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Abstract. Vasomotor rhinitis is one of the urgent problems in otolaryngology and one of the most common ENT diseases, which affects people of all age groups. Vasomotor rhinitis is also common among people suffering from endocrine pathology. The purpose of our work was to study the clinical features and dynamics of the course of vasomotor rhinitis in patients with thyrotoxicosis. Summarizing all the presented material, it should be noted that the obtained results quite convincingly demonstrated the conditionality of the course of vasomotor rhinitis in the examined patients from the state of their thyroid function.

Keywords: vasomotor rhinitis, thyrotoxicosis, examination, thyroid dysfunction, diagnostics, treatment..

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ОСОБЕННОСТИ КЛИНИКИ ВАЗОМОТОРНОГО РИНИТА ПРИ ТИРЕОТОКСИКОЗЕ

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Аннотация. Вазомоторный ринит является одной из актуальных проблем в оториноларингологии и одним из самых распространенных ЛОР-заболеваний, которому подвержены люди всех возрастных групп. Вазомоторный ринит также распространен среди лиц, страдающих эндокринной патологией. Целью нашей работы явилось изучение клинических особенностей и динамики течения вазомоторного ринита у больных с тиреотоксикозом. Обобщая весь изложенный материал, следует заметить, что полученные результаты достаточно убедительно продемонстрировали обусловленность течения вазомоторного ринита у обследованных больных от состояния у них функции щитовидной железы.

Ключевые слова: вазомоторный ринит, тиреотоксикоз, обследование, дисфункция щитовидной железы, диагностика, лечение.

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RELEVANCE OF THE PROBLEM

Treatment, and sometimes diagnostics of some common otolaryngological diseases to this day remains an unresolved problem, and this usually applies to those diseases for which the issues of etiology and pathogenesis have not been resolved. Therefore, the study of the etiology and pathogenesis of these diseases is of not only theoretical but also practical interest, since understanding the causes of the disease, the ways of its development opens up, as is known, broader prospects for finding more effective methods of pathogenetic therapy [1,5,8,11,16].

Vasomotor rhinitis is one of the urgent problems in otolaryngology and one of the most common ENT diseases, which affects people of all age groups [2,4,10,14].

Vasomotor rhinitis is also common among people suffering from endocrine pathology.

The relevance of the problem of vasomotor rhinitis is indicated not only by the above-mentioned features of this disease, but also by a large number of works by both domestic and foreign authors devoted to this problem [3,6,7,9,12].

However, despite numerous clinical and experimental studies covering various aspects of

this disease, many issues of its etiopathogenesis, diagnosis and treatment remain unresolved to this day [2,8,13,15].

On the other hand, the opinion about the existence of several etiopathogenetically different clinical forms of the disease leads, as a rule, to the fact that, despite the variety of methods and means of conservative therapy and even surgical treatment used in clinical practice, the principles of pathogenetic therapy cannot be considered fully developed and substantiated to this day [3,6,8,14].

In our opinion, a more detailed study of the features of the clinical course of vasomotor rhinitis, the identification of a number of its previously little-known signs, the use of some objective diagnostic methods will help the doctor not only confidently recognize the disease, but also promptly begin pathogenetically substantiated, and therefore more effective treatment.

PURPOSE OF THE STUDY

The aim of our work was to study the clinical features and dynamics of the course of vasomotor rhinitis in patients with thyrotoxicosis.

MATERIALS AND METHODS OF THE STUDY

The study included 125 patients with vasomotor rhinitis aged from 17 to 67 years, including 103 women (82.5%) and 22 men (17.5%). Thyroid dysfunction was detected in 104 patients (hypothyroidism of various forms, thyrotoxicosis). All examined patients underwent an assessment of the functional state of the thyroid gland, which was carried out clinically and laboratory by determining the content of triiodothyronine, thyroxine, thyrotropin (TSH), thyroid tissue antibodies, cholesterol in the blood serum on an empty stomach, as well as ultrasound. If necessary, special tests were used to clarify the functional reserves of the thyroid gland and the state of the hypothalamus-pituitary-thyroid system.

ENT examination included a thorough anamnesis, anterior and posterior rhinoscopy, and X-ray examination.

When collecting anamnesis, attention was paid to the duration of the disease, the frequency of exacerbations of vasomotor rhinitis, and the nature of previous treatment. In addition, patients' indications of simultaneous or delayed occurrence of complaints and symptoms characteristic of

thyroid dysfunction were noted.

All 125 patients with vasomotor rhinitis underwent a dynamic objective study of the functional state of the nose: breathing, olfaction, transport activity of the ciliated epithelium, and pH-nasal secretion. The severity of changes in the parameters under study was assessed by the degree of their impairment (I-IV).

The state of nasal breathing was determined with a rhinometer. The activity of the ciliated epithelium, pH-nasal secretion, and olfaction were also studied. The results of our studies were subjected to statistical processing - Spearman's rank correlation. Statistical data processing was performed using the Stadia software system implemented on an IBM-compatible computer.

RESULTS OF THE STUDY AND THEIR DISCUSSION

The results of the initial examination of patients together with an endocrinologist indicate a frequent combination of vasomotor rhinitis with thyroid dysfunction, which, according to our data, amounted to 83%. Moreover, most often (in 7055 observations) vasomotor rhinitis was diagnosed in patients suffering from hypothyroidism of varying severity. Features of the clinical course of vasomotor rhinitis, the results of a study of the main functions of the nose (respiratory, olfactory, transport activity of the ciliated epithelium, pH-nasal secretion) and the state of the autonomic nervous system according to the photoerythematous reaction of the skin to ultraviolet irradiation were assessed in 125 patients, dividing them into 3 groups; In 73 of them, vasomotor rhinitis was combined with hypothyroidism, in 31 - with thyrotoxicosis, and in 21 there was no thyroid dysfunction.

Analyzing the anamnestic data, a characteristic difference was revealed: in hypothyroidism, the synchronicity of the appearance of the first signs of vasomotor rhinitis and symptoms associated with a decrease in thyroid function was observed, while in the overwhelming majority of patients in Group II (94%), the symptoms of vasomotor rhinitis appeared only 2-4 years after the appearance of complaints characteristic of thyrotoxicosis.

During the initial objective examination of the main functions of the nose, attention is drawn to the fact that functional disorders were significantly more often observed in patients suffering from

thyrotoxicosis and especially in patients of group III, who were diagnosed with euthyroidism, while half of the examined patients of group I had no impairment of nasal breathing and olfaction, and a third had normal transport activity of the ciliated epithelium and pH-nasal secretion. In our opinion, this difference is combined and, to a certain extent explained by the difference in patients of different groups of complaints and an objective rhinoscopic picture. Thus, patients of group I noted difficulty in nasal breathing mainly at night, and upon examination, their nasal mucosa was less swollen. As is known, with hypothyroidism, edema develops, including in the mucous membranes due to the extracellular accumulation of mucopolysaccharides, which increase the hydrophilicity of tissues.

And this is confirmed by a more detailed analysis of the data of Functional studies in patients of this group depending on the severity of hypothyroidism. For this purpose, all patients suffering from hypothyroidism ($n = 73$) were divided into 3 subgroups. It turned out that more than half of them (56%) suffered from a mild form of hypothyroidism. And among them, patients with a violation of the studied functions of the nose were much less common. Moreover, respiratory and olfactory disorders, mainly of the 1st degree, were observed in less than a third of them, while changes in the pH of the nasal secretion were detected in every second patient. Apparently, with the development of hypothyroidism, before the difficulty of nasal breathing and olfaction appears, the transport activity of the ciliated epithelium and the pH of the nasal secretion changes. With an increase in the severity of hypothyroidism, the number of patients with impaired nasal functions increased. Thus, all patients with moderate ($n=18$) and severe ($n=14$) forms of hypothyroidism showed impairment of all studied nasal functions, and these changes were more pronounced in patients included in subgroup "B", mainly of grade II, and in group "B" - grades II and III. For the overwhelming majority of patients in group II suffering from thyrotoxicosis, complaints of a feeling of constant difficulty in nasal breathing during the day are more typical, and rhinoscopy showed greater swelling of the nasal mucosa, unlike patients in the previous group. In addition, they had concomitant pathology in the form of neurocirculatory dystonia more than 2 times more

often. Apparently, endocrine dysfunction, which is quite pronounced in thyrotoxicosis, reduces the resistance of the nervous system to various effects of both endogenous and exogenous nature, thereby increasing vegetative lability, which is manifested by endocrine-vegetative disorders in the nasal cavity.

As for patients of group III, the high frequency of nasal dysfunctions, coinciding with complaints of constant nasal congestion, can be associated with the concomitant therapeutic pathology affecting the cardiovascular system (hypertension, ischemic heart disease, kidney disease) that a third of them had.

It should be emphasized that our study did not aim to clarify the causes of vasomotor rhinitis with normal thyroid function. The group of patients with vasomotor rhinitis against the background of euthyroidism was examined as a control group for comparison with the previous ones.

The endocrinologist's hormonal thyroid therapy contributed to the normalization of the functional state of the thyroid gland. Against this background, the symptoms of vasomotor rhinitis disappeared or decreased. Thus, a direct correlation was revealed between the positive dynamics of vasomotor rhinitis and the restoration of thyroid function, and the most rapid improvement in the course of vasomotor rhinitis was observed during the correction of hypothyroidism, which was also achieved much faster than with thyrotoxicosis, the treatment of which required more time (1-3 months and 6-8 months, respectively). A repeated examination of patients was carried out a month after the start of corrective thyroid therapy. This period was sufficient for the rehabilitation of patients with a mild form of hypothyroidism. At the same time, clinical signs of vasomotor rhinitis disappeared, and during an objective examination, nasal breathing and sense of smell were restored in almost all of them. More time is apparently required for complete restoration of ciliated epithelium activity and normalization of pH-nasal secretion, since at the time of examination, almost a third of patients suffering from mild hypothyroidism still had mild impairments of these functions. Patients with moderate and severe hypothyroidism also showed a clear tendency toward normalization of all nasal functions under study.

Thus, the time of recovery of nasal functions with

a favorable clinical picture of vasomotor rhinitis varies, which is quite clearly demonstrated by the correlation constellation, from which it follows that the positive dynamics of vasomotor rhinitis against the background of treatment of hypothyroidism was accompanied by the restoration or tendency to it of all the studied functions, and first of all, nasal breathing and olfaction.

Summarizing all the presented material, it should be noted that the obtained results quite convincingly demonstrated the conditionality of the course of vasomotor rhinitis in the examined patients from the state of their thyroid function.

CONCLUSION

The course of vasomotor rhinitis with thyroid dysfunction is characterized by impaired respiratory, olfactory functions, transport activity of the ciliated epithelium and pH-nasal secretion, which are normalized after corrective therapy. It has been found that the greatest dysfunctions of the nose with hypothyroidism are directly dependent on its severity. Data on the study of nasal functions (respiratory, olfactory functions, transport activity of the ciliated epithelium and pH-nasal secretion) in patients with the neurovegetative form of vasomotor rhinitis are a criterion for excluding thyroid dysfunction.

CONFLICT OF INTERESTS

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

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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

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CONSENT FOR PUBLICATION

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КОНФЛИКТ ИНТЕРЕСОВ

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 пре-

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