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**ISSUES OF THE COURSE AND TREATMENT OF VASOMOTOR  
ALLERGIC RHINITIS IN PATIENTS WITH ARTERIAL  
HYPERTENSION**

**Resume:** According to WHO statistics, vasomotor allergic rhinitis accounts for about a quarter of cases of chronic rhinitis.

The vasomotor does not include cases of allergic rhinitis caused by occupational factors, intolerance to salicylates, atrophic variant of pathology and cases of disease not related to allergies, but accompanied by the appearance of immunocompetent cells (eosinophils, mast cells, neutrophil leukocytes) in nasal mucus.

Arterial hypertension (AH) and its complications, along with other pathologies, including BP, are the main causes of morbidity and mortality in developed countries.

**Keywords:** vasomotor rhinitis, arterial hypertension, treatment, prevention.

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**ВОПРОСЫ ТЕЧЕНИЯ И ЛЕЧЕНИЯ ВАЗОМОТОРНОГО  
АЛЛЕРГИЧЕСКОГО РИНИТА У ПАЦИЕНТОВ С АРТЕРИАЛЬНОЙ  
ГИПЕРТЕНЗИЕЙ**

**Резюме:** По статистике ВОЗ, на долю вазомоторного аллергического ринита приходится порядка четверти случаев хронического насморка.

К вазомоторному не относятся случаи аллергического ринита, вызванные профессиональными факторами, непереносимостью салицилатов, атрофический вариант патологии и случаи болезни, не связанные с аллергией, но сопровождающиеся появлением в носовой слизи иммунокомпетентных клеток (эозинофилов, тучных клеток, нейтрофильных лейкоцитов).

Артериальная гипертензия (АГ) и ее осложнения наряду с другими патологиями в том числе ВР являются основными причинами заболеваемости и смертности в развитых странах.

**Ключевые слова:** вазомоторный ринит, артериальная гипертензия, лечения, профилактика.

**Relevance.** Allergic rhinitis (inflammation of the nasal mucosa) is one of the most common human diseases. There are many forms of rhinitis that hardly fit into a single classification[4].

Some forms, such as infectious, atrophic, hypertrophic rhinitis, etc., are very well-established, certain clinical concepts, and methods of their treatment easily fit into specific schemes [2].

Methods and algorithms for the treatment of allergic rhinitis (AR) are presented in several international documents, in particular, in the WHO ARIA program (Allergic Rhinitis and its Impact on Asthma), which appeared in 2001.

As a result of such differences in classifications, various terms are used to define the same conditions ("rhinopathy", "vasomotor, allergic rhinosinusopathy", etc.), and in the treatment of such "rhinosinusopathies", any methods are often used, including those whose effectiveness is very doubtful [1].

Predisposing factors for the development of vasomotor rhinitis include the following conditions:

chronic diseases of ENT organs;

anomalies of the structure of the nasal cavity;  
curvature of the nasal septum against the background of nasal injuries, fractures, blows;

prolonged and uncontrolled use of certain intranasal medications – drops such as Pharmazoline, Naphthyzine, Oxymetazoline when used for longer than 5 days are addictive and contribute to severe drying of the mucous membranes of the nasal cavity;

smoking, including passive;

constant inhalation of dust or small particles is often found in industrial workers;

violation of the psychoemotional background – people who are in a state of chronic stress often suffer from vasomotor rhinitis;

stay in a room with dry air, especially during the heating period.

The main reason for the development of vasomotor rhinitis in pregnant women is hormonal restructuring of the body. In this case, rhinitis does not need to be treated, uncomfortable symptoms will pass on their own from about 2-3 trimesters. In some women, vasomotor rhinitis passes only after childbirth[5].

Thus, all of the above determines the relevance of the study of the functional state of the endothelium and hemodynamic parameters during HRV with various anti-hypertensive drugs in patients with hypertension and risk factors such as smoking.

**The purpose of the study.** The aim of this study was to assess the state of endothelial function in patients with vasomotor rhinitis with arterial hypertension and the effect of antihypertensive drugs of various classes on it during an acute pharmacological test.

**Materials and methods of research.** In the period from 2021 to 2023, we examined 120 patients with BP in combination with hypertension hospitalized for the ENT department of the ASMI clinic. There were 77 men, 43 women, aged 20 to 40 years.

**The results of the study.** In all patients with nasal breathing difficulties lasting more than 1 year, there are shifts in cerebral vascular autoregulation and changes in the acid-base state, regardless of the etiology of the disease.

At the time of nasal obstruction from 1 year to 5 years - increased reactivity of cerebral vessels (unidirectional shift of constrictor and dilator reactions) and compensated respiratory alkalosis; from 6 to 10 years - decreased reactivity of cerebral vessels and compensated respiratory alkalosis; more than 10 years — gross violation of autoregulation of cerebral arteries (disproportion of reactivity of two vascular basins of the brain) and compensated respiratory alkalosis with compensated metabolic acidosis.

Conservative treatment of patients with nasal obstruction lasting up to 5 years leads to complete normalization of clinical and laboratory parameters and cerebral hemodynamics in the first month after surgery. In patients with nasal obstruction lasting up to 10 years, surgical correction of nasal breathing leads to complete normalization of clinical and laboratory parameters 3 months after surgery, however, the tension of cerebral vascular autoregulation remains.

With nasal obstruction lasting more than 10 years, surgical treatment leads to normalization of clinical and laboratory parameters after 6 months, however, gross violations of cerebral hemodynamics and mechanisms of cerebral vascular autoregulation persist, which leads to the formation of cerebral pathology in the future.

In patients with mild and moderate nasal obstruction (total volumetric air flow - 581.01 and 315.23 cm<sup>3</sup> / s; total resistance - 0.32 and 0.41 Pa / cm<sup>3</sup> / s, respectively), the reactivity of cerebral vessels increases (unidirectional shift of constrictor and dilator reactions). In patients with severe nasal obstruction (total volumetric air flow -284.34 cm<sup>3</sup>/s, total resistance - 0.55 Pa/ cm<sup>3</sup>/s), significant and non-synchronous shifts in the reactivity of the cerebral arteries, compensated respiratory alkalosis (decrease in partial pressure of carbon dioxide dose, 5 mmHg, increase in partial oxygen voltage to 110.93 mm.mercury),

compensated metabolic acidosis (reduction of buffer bicarbonate bases to  $-0.04 \pm 0.22$  at normal concentration of hydrogen ions  $-7.403$ ).

Conservative treatment of patients with mild to moderate nasal obstruction leads to the restoration of cerebral vascular reactivity in the carotid and vertebral-basilar basins, as well as the parameters of the acid-base state within 3 months after surgery. With severe nasal obstruction, the parameters of the acid-base state normalize within 6 months after surgery, but changes in cerebral hemodynamics persist.

Restoration of nasal breathing leads to a significant improvement in the quality of life of patients with varying degrees of severity and duration of poly-etiological nasal obstruction not only due to normalization of nasal breathing, but also due to a decrease in the degree of cephalgia (2.5 times) within 3-6 months after surgery.

**Conclusion.** The therapeutic and diagnostic algorithm developed by us in patients with chronic nasal obstruction will contribute to the timely pharmacological correction of intra-nasal architectonics and the best rehabilitation of this category of patients.

The revealed features of cerebral hemodynamics and clinical and laboratory parameters allow us to use the data obtained in order to form risk groups of patients in terms of the development of cerebral diseases.

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