EFFICACY AND SAFETY OF ELIMINATION-IRRIGATION THERAPY WITH HYPEROSMOLAR XYLITOL SOLUTION IN THE TREATMENT OF PATIENTS WITH ALLERGIC RHINITIS

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Abstract. Traditionally, the treatment of allergic diseases (AD) consists of four basic components: elimination therapy, patient education, pharmacotherapy, and allergen-specific immunotherapy. The aim of elimination therapy is to avoid contact with causative allergens and includes various methods to reduce allergen concentration in the environment, elimination irrigation therapy, barrier methods, etc.

The aim of the study was to evaluate the efficacy and safety of symptomatic therapy with a hyperosmolar xylitol solution in the form of a nasal spray for the symptomatic treatment of allergic rhinitis (AR).

Materials and Methods

In accordance with the study's objective, we examined 40 patients. The study group included 20 patients (age — 29.2 years, 95% CI: 21.1; 37.2, men — 6 (30.0 %), women — 14 (70.0 %)). The comparison group also included 20 patients (age — 29.6 years, 95% CI: 21.1; 38.0, men — 10 (50.0 %), women — 10 (50.0 %)). Statistical analysis revealed no significant age difference between the groups ($p = 0.88$). The study was a randomized, prospective, double-blind, placebo-controlled trial with an interventional model in the form of monotherapy. The diagnosis of AR was established according to ARIA guidelines.

Patients in the study group received elimination irrigation therapy for AR using a hyperosmolar 12 % xylitol solution («SNOTTI,» manufactured by Yuria-Pharm LLC, Ukraine) for 5 days. Patients in the comparison group were treated with an isotonic solution (0.9 % sodium chloride) for 5 days. To assess the impact of treatment on symptom control and quality of life, evaluations were conducted six times: at the initial visit and after the first, second, third, fourth, and fifth days of treatment. Nasal symptoms before and during treatment were assessed using the commonly accepted Total Nasal Symptom Score (TNSS), and ocular symptoms were evaluated using the Total Ocular Symptom Score (TOSS).

Results and Conclusions. Elimination irrigation therapy with a hyperosmolar xylitol solution over 5 days was effective in relieving nasal and ocular symptoms in patients with AR, reducing the severity of symptoms as measured by TNSS from 12.4 (10.3; 14.5) to 3.2 (1.6; 4.8), which was statistically significantly better than elimination irrigation therapy with an isotonic solution, which reduced symptom severity from 11.9 (9.9; 14.0) to 6.8 (4.9; 8.7).

The most significant impact of elimination irrigation therapy with a hyperosmolar xylitol solution was observed in reducing sleep problems (92.00 % decrease) and eye redness (86.36 % decrease), while the least effect was observed in reducing eye itching (67.02 % decrease). No side effects were reported during the 5-day use of the hyperosmolar xylitol solution, indicating good tolerability.

Key words: allergic rhinitis, elimination irrigation therapy, hyperosmolar xylitol solution, isotonic solution.