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Efficacy and Safety of Inhaled Nebulized Chemotherapy in Treatment of Patients with Newly Diagnosed Pulmonary Tuberculosis in Comparison to Standard Antimycobacterial Therapy

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Abstract : Abstract: The objective of this work was to study the efficacy and safety of inhaled nebulized chemotherapy in the treatment of patients with newly diagnosed pulmonary tuberculosis in comparison with standard antimycobacterial therapy. Materials and methods: The study involved 68 patients aged between 20 and 70 years with newly diagnosed pulmonary tuberculosis. Patients were allocated to two groups. The first (main, n=21) group of patients received standard chemotherapy and further 0.15 g of isoniazid and rifampicin 0.15 g inhaled through a nebulizer, also they received salmeterol 50 mcg + fluticasone propionate 250 mcg at 2 breaths twice a day for 2 months. The second (control, n=47) group of patients received standard chemotherapy, consisting of orally administered isoniazid (0.3 g), rifampicin (0.6 g), pyrazinamide (2 g), ethambutol (1.2 g) with a dose reduction after the intensive phase of the therapy. The anti-TB drugs were procured through the Ukraine's centralized national supply system. Results: Intoxication symptoms in the first group reduced following 1.39±0.18 months, whereas in the second group, intoxication symptoms reduced following 2.7±0.1 months, p<.001. Moreover, respiratory symptoms regression in the first group was observed following 1.6±0.2 months, whereas in the second group – following 2.5±0.2 months, p<0.05. Bacillary excretion period evaluated within 1 month was reduced, as it was shown by 66.6±10.5% in the main group compared to 27.6±6.5%, p<0.05, in the control group. In addition, period of cavities healing was reduced to 2.9±0.2 months in the main group compared to 3.7±0.1 months, p<0.05, in the control group. Residual radiological lung damage findings (large residual changes) were observed in 22 (23.8±9.5 %) patients of the main group versus 24 (51.0±7.2 %) patients in the control group, p<0.05. After completion of treatment scar stenosis of the bronchi II-III art. diagnosed in 3 (14.2±7.8%) patients in main group and 17 (68.0±6.8%) - control group, p<0.05. The duration of hospital treatment was 2.4±0.4 months in main group and 4.1±0.4 months in control group, p<0.05. Conclusion: Administration of of inhaled nebulized chemotherapy in patients with newly diagnosed pulmonary tuberculosis resulted in a comparatively quick reduction of disease manifestation.

Keywords : inhaled nebulized chemotherapy, pulmonary tuberculosis, tuberculosis, treatment of tuberculosis
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