

OPTIMAL DURATION OF INDIVIDUALIZED REGIMENS OF ANTIMYCOBACTERIAL THERAPY, CONTAINING BEDAQUILINE AND REPURPOSED MEDICINES, FOR PATIENTS WITH MULTIDRUG-RESISTANT TUBERCULOSIS INCLUDING

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Abstract

The world is on the verge of a new era of antibiotic therapy due to the emergence of new drugs that can significantly reduce the overall duration of treatment for patients with tuberculosis.

Aim of the study: to develop an algorithm for selecting the optimal duration of individualized regimens of antimycobacterial therapy, containing bedaquiline and repurposed drugs for patients with drug-resistant tuberculosis.

Materials and methods. A prospective observational study was conducted in 425 patients treated during 2017–2021. Patients were prescribed individualized therapy regimen (ITR) which included bedaquiline and repurposed drugs (without delamanid) according to the same WHO step-by-step principle, but of different duration. Patients with successful outcome were divided into 3 groups: 1st group (176 patients) with ITR duration of 12 months (less than or equal to 400 days); 2nd group (170 patients) – 13-16 months; 3rd group (79 patients) – 16-20 months.

Results and discussion. Among patients treated for more than 12 months, there were significantly more pre-treatment patients with common destructive lesions in the lungs (cavities preserved after 6 month of treatment) and fluoroquinolone resistance, treated with second line antimycobacterial medications. There was a clear relationship between patients in the comparison groups: in groups 1 and 2 a cessation of bacterial excretion was significantly more often registered at the 1st-2nd month of treatment ($p < 0.05$). The average term of culture negativity in groups 1 and 2 was — (50.3 ± 2.9), (44.4 ± 2.2) days, respectively, vs group 3 — (61.1 ± 5.0) days, ($p < 0.05$).

Conclusion. The decision on the optimal duration of ITR should be made at 6 months from the beginning of treatment, based on the main (early period of negative culture) and additional criteria (no destructive changes in the lungs at 6 months, no resistance to fluoroquinolones and history of past second line antimycobacterial treatment).

Key words: tuberculosis, individualized treatment regimens.