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DRUG-RESISTANT TUBERCULOSIS IN UKRAINE. A REVIEW OF THE LITERATURE

Authors. Yelyzaveta BOCHARNIKOVA (II year, Medicine), Lizaveta PATSALUYEVA (II year, Medicine).

Supervisors. Assoc. prof. Agnė KIRKLIAUSKIENĖ, VU MF Institute of Biomedical Sciences, Department of Physiology, Biochemistry, Microbiology and Laboratory Medicine; Tetyana CHUMACHENKO, Head of the Epidemiology Department, Kharkiv National Medical University.

Background and aim. To review the latest scientific literature to find out the dynamic of tuberculosis cases among the citizens of Ukraine during the past 5 years, what drugs are used to treat tuberculosis, to check for relationship between specific medications used and drug-resistant tuberculosis, and to review the literature about the new treatment regime for resistant tuberculosis.

Materials and methods. A literature search was conducted using official records of National Academy of Medical Science of Ukraine, Vinnytsia Regional Centre for Disease Control and Prevention of the Ministry of Health of Ukraine, Public Health Centre of the Ministry of Health of Ukraine. The data from scientific literature reviewed in Ukrainian language were translated into English.

Results. Tuberculosis is a disease, which affects mainly lungs, and are caused by different bacterial species. The most common causative agent is bacterium *Mycobacterium tuberculosis*. Currently, there are 10 drugs approved by the US Food and Drug Administration (FDA) for the treatment of TB. Of the approved drugs, the first-line anti-TB drugs that form the core of treatment regimens are isoniazid (INH), rifampin (RIF), ethambutol (EMV), pyrazinamide (PZA). In today's environment, one of the main reasons for the growth of the TB epidemic is the development of resistance to anti-TB drugs (ATB). When the tuberculosis pathogen is resistant to first-line anti-tuberculosis drugs, only 50% of patients are cured with the help of second-line anti-tuberculosis drugs, 10% die, and 40% of patients develop chronic tuberculosis. The number of TB patients is decreasing every year (31,584 cases in 2017; 15,119 – in 2022), but the proportion of those with resistant forms of the disease is increasing in the Ukraine. The main reasons for development of drug-resistant tuberculosis are low-level of early detection of the disease, uncontrolled use of antimycobacterial drugs, frequent interruptions in treatment due to irresponsibility of some patients. In Ukraine, there is a high incidence of primary drug resistance – 23–25%. Secondary drug resistance to any anti-TB drug is 55–56%. The incidence of secondary resistance to isoniazid and rifampicin in Ukraine is 45–46% and indicates an extremely high prevalence of XDR-TB in Ukraine. The treatment effectiveness of AMB-sensitive TB in Ukraine averages 75%,

the treatment effectiveness of resistant TB is about 50%. The newest regimen treatment in Ukraine includes three types of drugs (bedaquiline + linezolid + pretomanide), and the treatment course is designed to last 6 months. The short-term regimen, compared to the current treatment, has a high recovery rate – more than 90% of patients.

Conclusion. The number of drug-resistance tuberculosis cases in Ukraine is increasing due to inappropriate treatment and patients' irresponsibility, but the new successful treatment regime was developed and is now being introduced into medical practice.

Keywords. Tuberculosis; drug-resistant tuberculosis; Ukraine.