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WHAT'S NEW IN THE TREATMENT OF MULTIDRUG-RESISTANT TUBERCULOSIS?

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Abstract: Introduction: The current Tuberculosis epidemic represents a major public health problem. The issue gained prominence due to the increasing incidence of *Mycobacterium tuberculosis* strains resistant to first-line antituberculosis agents, posing a threat to disease control and management strategies. **Objectives**: To identify in the literature an overview of the current evidence on the management of multidrug-resistant tuberculosis. **Methodology**: A bibliographic review was carried out, through research in the SciELO databases, the Virtual Health Library and in data repositories. 4 original articles and 1 document made available by the Ministry of Health, published from 2018 to 2022, were selected. Descriptors used: MDR-TB, Multidrug-resistant Tuberculosis, Antituberculous agents. **Results and Discussion**: Multidrug-resistant Tuberculosis (MDR-TB) is described by resistance to the drugs rifampicin and isoniazid, used as a standard therapeutic scheme. The disease poses challenges in its treatment, such as a high failure rate and high risk of adverse events, mainly due to the lack of standardization and global regulation of the drugs used. Currently, excluding restrictions, treatment lasts for 8 months using capreomycin associated with levofloxacin, terizidone, ethionamide and pyrazinamide, followed by 10 months of treatment with levofloxacin associated with terizidone and ethionamide. Bedaquiline (BDQ), a diarylquinoline with bactericidal and sterilizing action, is recommended by the World Health Organization (WHO) in long-term regimens and in combination with three other effective drugs. The proposed administration is oral, aiming to optimize treatment outcomes and reduce toxicity associated with injectable drugs. A retrospective observational study conducted in 15 countries reported the outcomes of 428 cases treated with BDQ-containing regimens. The bacilloscopy and sputum culture conversion rates achieved at the end of treatment were 88.7% and 91.2%, respectively; the success rate in the cohort as a whole was 77%. Delamanid, a drug from the nitroimidazole class with bactericidal action, is recommended under the same conditions described for BDQ, prescribed when drugs from the previous groups cannot be used. Recent evidence suggests that the bedaquiline-delamanid combination is well tolerated in cases where few treatment options are available. The use of beta-lactam antibiotics associated with a beta-lactamase inhibitor, such as carbapenems associated with clavulanic acid, proved to be a therapeutic alternative. The combination showed a potent effect against M. tuberculosis - the cohorts performed had a success rate between 57.3% and 80.3%. However, the use of carbapenems is restricted to patients with severe presentation of the disease and therapeutic failure in second-line treatment. Factors such as high costs and lack of oral formulations contribute to their limited use. **Conclusion**: Through the study carried out, it was possible to confirm the challenges of MDR-TB therapy. Drugs such as delamanid, bedaquiline and carbapenems proved to be promising alternatives for the treatment of MDR-TB, demonstrating the importance of searching for new therapeutic strategies that aim not only to improve the current scenario of the disease, but also to improve the quality of care. patient's life and adherence to treatment.

Keywords: Mycobacterium tuberculosis; Quality of life; Tuberculosis; Therapy.

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