



In vivo microevolution of *Mycobacterium tuberculosis* and transient emergence of *atpE*_Ala63Pro mutation during treatment in a pre-XDR TB patient

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Shareable abstract (@ERSpublications)

This letter describes microevolution of a pre-XDR MTB strain isolated from a pulmonary TB patient over an 18-month exposure to BDQ. MDR-TB therapies with BDQ require a functional background regimen to prevent emergence of additional resistance. <https://bit.ly/3D05qT9>

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To the Editor:

Bedaquiline is a novel anti-tuberculosis drug for the treatment of multidrug-resistant tuberculosis (MDR-TB) recommended by the World Health Organization (WHO) [1] and recently upgraded to the group A classification of TB drugs as one of the three key drugs, along with linezolid and fluoroquinolones, to be included in all MDR-TB treatment regimens. Based on this grouping of second-line drugs, extensively drug-resistant tuberculosis (XDR-TB) is redefined as MDR- or rifampicin-resistant-TB that is resistant to a fluoroquinolone and to either bedaquiline or linezolid or both. Moreover, bedaquiline, in combination with pretomanid and linezolid, is a part of BPpL regimen recommended for treating adult pulmonary TB patients having pre-XDR-TB or MDR-TB which is either non-responsive or intolerant to recommended standard treatment [2]. However, globally emerging resistance to bedaquiline threatens the effectiveness of novel treatment regimens for drug-resistant TB.

