

Efficacy of minocycline for the treatment of macrolide-resistant *Mycoplasma genitalium*

Emily J. Clarke¹, Lenka A. Vodstrcil^{1,2,3}, Erica L. Plummer^{1,2}, Ivette Aguirre¹, Ranjit S. Samra¹, Christopher K Fairley^{1,2}, Eric PF. Chow^{1,2,3}, Catriona S. Bradshaw^{1,2,3}

¹Melbourne Sexual Health Centre, Alfred Health, Carlton, Victoria, Australia

²Central Clinical School, Monash University, Melbourne, Victoria, Australia

³Centre for Epidemiology and Biostatistics, Melbourne School of Population and Global Health, The University of Melbourne, Melbourne, Victoria, Australia

Background

Mycoplasma genitalium is increasingly difficult to treat. Macrolide-resistance exceeds 50% in many regions^{1,2}, and fluoroquinolone resistance mutations exceed 20% in some regions of the Asia-Pacific, including Melbourne, Australia^{3,4,5}. Minocycline is an alternative treatment for patients with macrolide-resistant *M. genitalium* infections that have failed moxifloxacin and those with contraindications to fluoroquinolones. Data around the efficacy of minocycline for *M. genitalium* are limited to case reports and small case-series.

Aim

To provide tighter efficacy estimates and further data around tolerability of minocycline 100mg BD for 14 days for the treatment of macrolide-resistant *M. genitalium* infections.

Methods

We conducted a retrospective review of patients with macrolide-resistant *M. genitalium* who were treated with minocycline 100mg BD for 14 days at Melbourne Sexual Health Centre (MSHC) between February 2020 May 2022. Microbial cure was defined as a negative test-of-cure within 14-90 days after completing minocycline. The proportion cured with 95% confidence intervals (CI) was calculated and logistic regression was used to explore factors associated with treatment failure. To provide greater precision around microbial cure for minocycline, we pooled data from the current study with a prior adjacent case series of patients with *M. genitalium* who had received minocycline 100mg BID for 14 days at MSHC between May 2018-February 2020.

Results

Data from 90 patients with macrolide-resistant *M. genitalium* who were treated with 14 days of minocycline between February-2020 and May-2022 were analysed; 60 patients (66.7% [95% CI 56.0%-76.3%]) experienced microbial cure within 14- 90 days of completing minocycline. Adherence to minocycline was high; 86/90 patients (96%) reported taking all minocycline doses. Side-effects were mild and self-limiting, with dizziness/light-headedness being the most common side-effect reported (8/90, 8.9%). No demographic or clinical characteristics were associated with minocycline failure in regression analyses. In pooled analyses of 123 patients treated between May-2018 and May-2022, 83 [67.5% (95% CI 58.4%-75.6%)] were cured following 14 days of minocycline.

Conclusion

Minocycline cured 68% of macrolide-resistant *M. genitalium* infections. These data provide tighter precision around the efficacy of minocycline for macrolide-resistant *M. genitalium* and show that it is a well-tolerated regimen. With high levels of macrolide-resistance, increasing fluoroquinolone resistance, and the high cost of moxifloxacin, access to non-quinolone options such as minocycline is increasingly important for the clinical management of *M. genitalium*.

References

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