

Povidone-Iodine in the Treatment of Infectious Keratitis: A Systematic Review

Waleed Alsarhani¹, MD, MRCSEd, Amy Basiliou², MD, Marko M. Popovic³, MD, MPH,
Sara Alshaker⁴ MD, FRCSC, Clara C. Chan⁵, MD, FRCSC, FACS

¹ Department of Ophthalmology and Vision Sciences,
University of Toronto

² Schulich School of Medicine & Dentistry, Western University

³ Department of Ophthalmology and Vision Sciences, University of Toronto

⁴ College of Medicine, King Saud University

⁵ Department of Ophthalmology and Vision Sciences, University of Toronto

Purpose: To evaluate if povidone-iodine is effective and safe in the treatment of infectious keratitis.

Methods: A systematic review of Ovid MEDLINE, EMBASE, and Cochrane Library was conducted to find relevant published articles. Outcomes including best corrected visual acuity, infiltrate, ulcer size and colony forming units were collected. All clinical trials and observational studies published in English were included. Descriptive statistics were used to summarize findings.

Results: Following database review, 221 articles were identified. Four studies met the inclusion criteria. The studies included 590 cases, with a culture positivity rate of 87.61%. Of the 590 cases, 288 received povidone-iodine treatment, and the rest underwent either standard of care treatment or placebo. When comparing povidone-iodine to standard antibiotic treatment, there was no significant difference in achieving recovery and presumed cure. Moreover, povidone-iodine was shown to be an effective treatment in reducing infiltrate and ulcer size while waiting for culture results. However, in two other studies, povidone-iodine did not significantly reduce CFU and did not improve visual outcomes when added to standard antibiotic treatment. None of the studies reported any safety concerns with topical povidone-iodine.

Conclusions: Some studies showed benefit for the use of povidone-iodine in infectious keratitis, while others found no significant differences relative to placebo or when added to topical antibiotic treatment. Further randomized controlled studies with a larger sample size and longer follow up duration are recommended to evaluate the efficacy of povidone-iodine in the treatment of infectious keratitis.