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Prevention of respiratory infections by povidone-iodine gargle.

Nagatake T¹, Ahmed K, Oishi K.
 Author information

¹Department of Internal Medicine, Institute of Tropical Medicine, Nagasaki University, Nagasaki, Japan. nagatake@net.nagasaki-u.ac.jp

Abstract

Bacterial attachment to host cells is the initial step in the pathogenesis of infection. Our studies and those of others also showed that there is a significant correlation between the attachment of bacteria to human pharyngeal epithelial cells and the occurrence of respiratory tract infections. We identified the receptor on human pharyngeal epithelial cells which mediate binding of *Moraxella catarrhalis* and *Haemophilus influenzae*. In an attempt to prevent occurrence of infections, the effects of povidone-iodine gargling on the incidence of respiratory infections were investigated. The subjects included a total of 23 adult patients, both males and females, with chronic respiratory diseases showing repeated infections. Patients were asked to gargle more than 4 times/day with povidone-iodine gargle over extended periods of time, i.e. from several months up to over 2 years. The incidence of episodes of acute exacerbation of chronic respiratory infections decreased significantly when compared with that before use of povidone-iodine gargle. Episodes of infections with *Pseudomonas aeruginosa*, *Staphylococcus aureus* (including MRSA) and *H. influenzae* were reduced by about 50%. Results of this study suggest that povidone-iodine gargle is effective in providing a significant reduction in the incidence of acute exacerbations of chronic respiratory disease. We assume that the colonized bacteria were destroyed and thus infection could not occur. Therefore, povidone-iodine gargle may be used in these patients as a preventive therapy. Further studies are needed to find out the mechanism of action of this drug for the prevention of respiratory tract infections.

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