

Prevention of ventilator-associated pneumonia in ICU patients by Ozonated water mouthwash: a double-blind randomized clinical trial

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Abstract

Background and Aims: Oral care is one of the most important treatment programs for patients undergoing mechanical ventilation in ICU that helps prevent nosocomial infections. The aim of this study was to compare two mouthwash solutions: chlorhexidine and ozonated water for prevention of ventilator-associated pneumonia (VAP) in patients connected to mechanical ventilation in ICU. **Methods:** The present study is a double-blind randomized clinical trial performed on eligible patients in the ICU in two hospitals. The Clinical Pulmonary Infection Score (CPIS) checklists and culture swap to examine the presence of microorganism in the patient's pulmonary secretions were used to evaluate the effect of chlorhexidine mouthwash and ozonated water on incidence of VAP. **Results:** The effects of both chlorhexidine mouthwash and ozonated water on prevention of VAP varied over time (the first, the third and the fifth days). There was also a significant difference in the incidence of VAP in the two groups of chlorhexidine mouthwash and ozonated water in terms of the culture of pulmonary secretions in the two groups ($P = 0.050$). Incidence of VAP in the mouthwash group with chlorhexidine, 45.9% and in the mouthwash group with ozonated water, 25% were positive. **Conclusion:** Ozonated water mouthwash was more effective than chlorhexidine mouthwash in preventing VAP.

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