

論 文 要 旨

***In vitro* and *in vivo* removal of oral *Candida* from the denture base**

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Objectives

To clarify the effectiveness of ultrasonic cleaning for removing *Candida* lodged in the denture base.

Materials and Methods

In vitro – Specimens of acrylic resin for denture plates contaminated with *Candida* cells were ultrasonically cleaned for 30 min. Washings were sampled every 5 min and cultured to investigate residual contamination, measured as colony forming units/ml, and the surfaces of the specimens were subjected to low-vacuum scanning electron microscopy (LV-SEM). *In vivo* – A total of 24 maxillary denture bases were brushed for 2 min under running tap water, then ultrasonically cleaned for 30 min. The washings were sampled every 5 min and cultured to investigate residual contamination.

Results

In vitro – Maximum removal was achieved during the first 5 min of cleaning, with the mean CFU/ml counts significantly declining over time. More than 85% of all *Candida* was removed within the first 15 min in specimens inoculated with phosphate-buffered saline suspensions of *Candida albicans* and *Candida glabrata*. LV-SEM revealed a decreased number of *Candida* on the surface of the specimens after 30 min of ultrasonic cleaning. *In vivo* – Maximum removal was achieved during the first 5 min of cleaning, then the mean CFU/ml count significantly declined during the first 10 min. Ultrasonic cleaning for 15 min removed 88.4% of *Candida* species from the denture base.

Conclusions

Ultrasonic cleaning is a reliable and simple method for removing *Candida* lodged in the denture base.