

In vitro evaluation of artificial ageing on surface properties and early *Candida albicans* adhesion to prosthetic resins.

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OBJECTIVE: The aim of this in vitro study was to examine potential changes and influences of prosthetic resin surface properties on *Candida albicans* adhesion after surface treatment or artificial ageing. **MATERIALS AND METHODS:** Standardized specimens of a denture base resin and a veneering composite were prepared, polished, and randomly subjected to different surface roughness treatments or artificial ageing protocols (storage in ethanol or artificial saliva for 7/90 d, thermocycling). Surface roughness (Ra) and surface free energy were determined prior and after each treatment. Specimens were incubated with phosphate buffered saline or whole saliva for 2 h at 37 degrees C, and later with *Candida albicans* suspension (2.5 h, 37 degrees C). Adherent viable fungi were quantified using a bioluminescence assay. **RESULTS:** Artificial ageing did not affect substratum surface roughness, yet slight increases in substratum surface free energy and significant increases in *Candida albicans* adhesion were observed. Saliva coating marginally influenced *Candida albicans* adherence to reference and surface treated specimens, yet more pronounced differences in *Candida albicans* adhesion between the various artificially aged specimens were found. **CONCLUSION:** No correlation between substratum surface roughness or surface free energy and *Candida albicans* adhesion could be established.

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