Z-003

Cytotoxicity analysis of different adhesive systems used in implant-retained maxillofacial prosthesis

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Objectives

This study aimed to evaluate the cytotoxicity of different adhesive systems used to bond acrylic resin and facial silicone in implant-retained maxillofacial prosthesis, in keratinocytes cells (HaCat), through the analysis of cell proliferation, production of proinflammatory cytokines and extracellular matrix proteins

Methods

For this, 21 samples were divided into 7 groups: Resin, Silicone, Resin + Silastic Medical Adhesive Type A + Silicone (RAS), Resin + DC 1205 Primer + Silicone (RDCpS), Resin + Sofreliner Primer + Silicone (RSpS), Resin + DC1205 Primer + Silastic Medical Adhesive Type A + Silicone (RDCpAS), and Resin + Sofreliner Primer + Silastic Medical Adhesive Type A + Silicone (RSpAS). Eluates corresponding to 24 hours (h) of sample immersion in medium were prepared, in which HaCat cells were exposed for 72 h. Cytotoxicity was evaluated by cell viability MTT test. The Interleukin 1β, Interleukin 6 (IL6), Tumor Necrosis Factor α and Macrophage Inflammatory Protein 1α levels were evaluated by ELISA, and mRNA expression for Collagen Type IV (COL IV), Matrix Metalloproteinase 9 (MMP9) and Transforming Growth Factor β (TGFβ), by RT-PCR. Data were submitted to ANOVA and Bonferroni tests ($p<0.05$)

Results

The materials did not present cytotoxic potential. IL1β, TNF α e CCL3/MIP1α were not detectable. RDCpS presented the highest concentrationof IL6. Concentrations of COL IV, MMP9 e TGF β were not statistically different among groups.

Conclusions

Materials evaluated were not toxic and DC 1205 primer not associated with adhesive (RDCpS group) may trigger an inflammatory process.

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