1036 APOPTOSIS AND NECROSIS INDUCED BY SOFT LINING MATERIALS

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Location: Poster Hall (Convention Center)
Presentation Type: Poster Session

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Objective: The aim of this in vitro study was to evaluate the apoptosis- and necrosis-inducing potential of eluates from six soft liners (Ufi Gel P – UGP; Sofreliner – SR; Durabase Soft – DS; Trusoft – TS; Coe Comfort – CC; and Softone - ST) on cultured fibroblasts (L929) and keratinocytes (HaCat).

Method: The soft lining materials were immersed in culture medium for 24 or 48hs, giving rise to the eluates. Then, the L929 and HaCat seeded in wells of 24-well dishes were exposed for 24h to the eluates. Cells exposed to fresh DMEM were used as control. Apoptosis and necrosis were evaluated by flow cytometry using the Annexin V/propidium iodide double staining method. Experiment was repeated in three different times and data were analyzed by ANOVA followed by the Tukey HSD test (α=.05).

Result: L929 exposed to 24-h eluates obtained from SR, DS and TS and to the 48-h eluates obtained from UGP, TS and DS presented significant increase in necrosis rate when compared to control ($p<0.05$). The apoptosis rate in the L929 cells exposed to 24- or 48-h eluates was not statistically different from that observed in the control group ($p>0.05$). For the HaCaT, the highest necrosis rate was observed when the cells were exposed to 24- and 48-h eluates obtained from CC. The lowest apoptosis rate was induced by the 24-h eluate from ST. The apoptosis rate was statistically higher for the 48-h eluates obtained from UGP, ST, DS and TS in comparison to control ($p<0.05$).

Conclusion: Only Softone (ST) did not induce necrosis in both cell lines. The other soft lining materials evaluated in this study induced variable rates of apoptosis and necrosis according to the cell line used.

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Keywords: Biocompatibility, Cell culture, Fibroblasts, Keratinocytes and Polymers
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