

M. SIROLLI

30 July (Day 3) Hall A 11:00 - 11:15

Myofibroblasts in the wound healing process of incisions made by laser, electrosurgery and scalpel

This study compared the concentration of myofibroblasts in the healing process of incisions made by lasers, electrosurgery and scalpel. Thirty male Wistar rats were submitted to 6 linear incisions each, performed in the dorsal skin by CO₂ laser and high intensity diode 808 laser (both with power 2W and 4W, cw), electrosurgery (power 2W) and conventional scalpel. The animals were euthanized at intervals of 0, 24, 48 and 72 hours, and at 7 and 14 days after the incisions (five animals per experimental group). Histological sections and immunohistochemical reaction were made from the wound areas and subjected to analyses of myofibroblasts quantification. The data were analyzed by ANOVA and Tukey's test (P<0.05). The results showed that after 72h, statistically significant difference occurred between CO₂ (2W) and CO₂ (4W) (P<0.05). After 7 and 14 days, the number of myofibroblasts did not show statistical difference among all studied incisions. However, on the day 7 there was a tendency of a higher number of myofibroblasts in CO₂ (4W) incisions when compared to scalpel ones. Based on these results, it is possible to conclude that at the end of the analyzed period, the number of myofibroblasts were similar in all incisions, even though there were differences concerning the number of myofibroblasts between CO₂ (2W) and CO₂ (4W) laser in the beginning of the healing process. Additionally, the cicatrization of the skin proceeds similarly in all techniques as long as the incisions are made in a similar pattern.

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