Analysis of extraction sockets treated with two biomaterials in rabbits

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Objectives: The aim of this work was to determine the histomorphometric results off new bone formation in the extraction sockets in rabbits, filled with two different biomaterials of bone grafts.

Methods: Fourteen adult New Zealand white rabbits of both sexes weighing 4 to 5 kg were used in the study. After extraction of first and second Molar in the same side of the jaw of each animal, the sockets were randomly filled with bovine mineral bone (Bio-oss®- group) and synthetic hydroxyapatite (HA) (Alobone poros®- group B). After 3 months , seven animals had been sacrificed and the others after 6 months. The specimens had been prepared for histomorphometric analysis**.**

Results: The means new bone formation in treated groups after the histomorphometric analysis revealed a range of new bone in the group A and group B from: 28.72 ± 11,81 and 30,69 ± 19,65, respectively, in the period of 3 months and 23,37 ± 19,02 and 25,78 ± 22,75 in the period of 6 months. No statistically significant differences were found with respect to percentage of newly formed bone between the 2 groups in 3 months (P= 0.949) and 6 months (P= 0.873). The statistical analysis intragroup did not presented differences in group A (P= 0.463) and in group B (P= 0.917).

Conclusion: Bone formation occurred in all specimens independent of the graft biomaterials used. This study demonstrates that both bovine-derived and porous synthetic HA can be used successfully as graft materials for treatment of extraction sockets prior to implant placement.

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Keywords: Biomaterials, Bone, Implantology, Regeneration and histomorphometric

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