

Ozone therapy protocol in prevention of animal model in medication-related osteonecrosis of the jaw

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Reports of osteonecrosis of the jaws are frequent in patients on chronic use of antiresorptives and antiangiogenic medications. Studies have shown that ozone therapy can stimulate cell proliferation and wound healing. The aim of this study was to evaluate the histological areas of extraction in rats previously submitted to Medication-related osteonecrosis of the jaw (MRONJ) under topic application of ozonated oil. Twelve (12) Wistar rats were divided into two groups: Negative Control (G1, n=5), these rats received injection of zoledronic acid solution once a week for five weeks and extraction of the first maxillary molar and maintenance of the alveolus with clot; Positive Control (G2, n=7), these rats received injection of zoledronic acid solution once a week for five weeks and extraction of the first upper molar and maintenance of the alveolus with application of ozonated oil for three consecutive days. Extractions were performed

on the 7th week after osteonecrosis induction protocol and then area block resection was performed on the 15th week after induction. Histopathological analysis revealed that all of the animals of G1 group presented non-vital areas with empty osteocyte lacunae (indicative of osteonecrosis) associated to a varied amount of bacterial colonies. In G2 group, 57.13% had vital bone, and 14.28% presented bacterial colonies. In 42.85% of the samples from the G2 group there were discrete osteonecrotic areas, however, in 14.28%, no bacterial colonies were found. This study shows positive results of the ozonated oil used to prevent the development of MRONJ in rats and it should be considered for future clinical trials in prevention of MRONJ lesions.

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