Comparative study of onion versus Miacalcic on tooth supperting tissues of albino rats treated by Dexamethasone

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Abstract

Objective: The purpose of this study is to compare the effect of onion and miacalcic on alveolar bone, periodontal ligament (PDL) and cellular cementum in albino rats treated with dexamethasone.
Design: Forty male Swiss albino rats ranging from 150-200 gm were selected for the study and randomly divided into four groups: Group I (Control group), Group II (Dexamethasone treated group), Group III (Dexamethasone and Miacalcic treated group) and Group IV (Dexamethasone and Onion treated group). At the end of the experimental period (four weeks), the rats were sacrificed and the mandible specimens were divided into right and left halves. Half of the samples were kept for measuring bone mineral density (BMD). The other halves were prepared for light microscopic examination and immunohistochemical assessment.
Results: Histopathological examination of group II revealed severe bone and cementum resorption and disorganization of PDL. Less resorptive activity and more dense and organized PDL could be detected in group III, while group IV showed normal architecture closely resembling that of the control group. The greatest fibronectin (FN) expression and the highest mean of BMD values were demonstrated in the onion treated group (group IV) which was nearly similar to that of the control group.
Conclusions: Onion treatment when combined with dexamethasone prevented alveolar bone and cementum resorption to a marked degree, preserved the density of the alveolar bone, and maintained the PDL architecture to a level comparable to the control.

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