EuroSciCon

EuroSciCon Conference on

Dental & Dental Hygiene

March 26-27, 2018
Edinburgh, Scotland

J Den Craniofac Res 2018, Volume: 3
DOI: 10.21767/2576-392X-C1-003

THE EFFECT OF ATORVASTATIN ON GLUCOCORTICOID-INDUCED OSTEOPOROSIS ON PERIODONTAL BONE LOSS

Paula Goes[1], Luzia Hemínia de Sousa[2], Eveline Linhares[2], Joana Trycia Alexandre[2], Mario Roberto Lisboa[3], Mirna Marques[2], Helliada Vasconcelos[2], Conceição Martins[3] and Gerly Anne de Castro Brito[3]

[1]Federal University of Ceará, School of Medicine, Brazil
[2]Federal University of Ceará, Sobral, School of Medicine, Brazil
[3]Federal University of Ceará, School of Medicine, Brazil

Background: Atorvastatin (ATV) has shown pleiotropic effects on bone tissue, and osteoporosis can aggravate periodontitis. Thus, we assessed the effects of ATV on experimental periodontitis (EP) of rats subjected to glucocorticoid-induced osteoporosis (GIOP).

Methodology: Male Wistar rats were divided into: Naïve, EP, GIOP+EP and ATV groups. GIOP+EP and ATV received 7 mg/kg of dexamethasone intramuscularly 1x/week for 5 weeks, the others received Saline (SAL). EP, GIOP+EP and ATV were

submitted to EP by ligature around 2nd upper left molars for 11 days. ATV received 27 mg/kg of ATV orally and the others SAL, 30 minutes before EP. Periodontium was analyzed by macroscopy, micro-tomography and histopathology; by immunohistochemical examination of RANKL, OPG, WNT10b, DKK-1 and β-catenin and by ELISA analysis of myeloperoxidase (MPO), TNF-α, IL-1β, -6, -8, and -10, reduced glutathione (GSH), superoxide dismutase (SOD) and catalase (CAT). Leukogram and liver and kidney enzymes and bone-specific alkaline phosphatase (BALP) serum levels were performed.

Results: ATV decreased bone loss, reduced MPO, TNF-α, IL-1β, -6, and -8, and increased IL-10, GSH, SOD and CAT levels. ATV reduced RANKL and DKK-1, increased OPG, WNT10b and β-catenin expressions and BALP activity.

Conclusions: ATV reduced inflammation, oxidative stress and bone loss in rats with EP and GIOP, with participation of WNT signaling pathway.

paulagpinheiro@yahoo.com.br