

## عنوان مقاله:

Ameliorative effects of crocin on the inflammation and oxidative stress-induced kidney damages by experimental periodontitis in rat

## محل انتشار:

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## نویسندگان:

Mehmet Erdemli - *Inonu University, Faculty of Medicine, Medical Biochemistry Department, Malatya, Turkey*

Zeynep Erdemli - *Inonu University, Faculty of Medicine, Medical Biochemistry Department, Malatya, Turkey*

Mehmet Gul - *Inonu University, Faculty of Medicine, Histology and Embryology Department, Malatya, Turkey*

Eyup Altinoz - *Karabuk University, Faculty of Medicine, Medical Biochemistry Department, Karabuk, Turkey*

Semir Gul - *Inonu University, Faculty of Medicine, Histology and Embryology Department, Malatya, Turkey*

Gulhan Kocaman - *Karabuk University, Faculty of Dentistry, Periodontology Department, Karabuk, Turkey*

Elif Kustepe - *Inonu University, Faculty of Medicine, Histology and Embryology Department, Malatya, Turkey*

Harika Gozukara Bag - *Inonu University, Faculty of Medicine, Biostatistics Department, Malatya, Turkey*

## خلاصه مقاله:

Objective(s): The present study aimed to investigate the effects of periodontitis on kidneys and the protective role of crocin in periodontitis-induced kidney damage. Materials and Methods: Ethics committee approval was obtained and 30 Wistar rats were randomly divided into 3 groups of 10 rats: Control (C), Periodontitis (P), and Periodontitis + Crocin (P + Cr). After the treatments, rat kidney tissues were incised under anesthesia and blood samples were collected. Biochemical and histopathological analyses were conducted on the samples. Results: Malondialdehyde (MDA), total oxidant status (TOS), and oxidative stress index (OSI) increased in P group rat kidney tissues; urea, creatinine, Tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ), interleukin-6 (IL-6), and interleukin 1 $\beta$  (IL-1 $\beta$ ) levels increased in the serum; glutathione (GSH), superoxide dismutase (SOD), catalase (CAT) and total antioxidant status (TAS) levels were reduced in rat kidney tissues, and renal histopathology deteriorated. In the P + Cr group, we observed improvements in biochemical and histopathological parameters when compared with the P group. Conclusion: Periodontitis (P) led to deterioration in oxidative stress parameters and histopathology by increasing the oxidants in kidney tissue. P also led to inflammation in the blood of the rats. Periodontitis + Crocin (P + Cr) administration alleviated the effects of P due to powerful antioxidant anti-inflammatory properties. Cr could be employed as a protective agent in P-induced inflammation and oxidative damage.

## کلمات کلیدی:

Crocin, Inflammation, Kidney damage, Oxidative stress, Periodontitis, Rat

