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Original Article

Histopathological evaluation of the effect of *Salvadora persica* and *Nigella sativa* on the healing of tooth extraction socket in animal

Abstract:

Aim: to assess the effects of *Salvadora persica* and *Nigella sativa* combination in tooth socket healing after extraction that can be a novel remedy for tooth extraction socket.

Methods: Forty rabbits were included in this study, divided into two groups (control and experimental) with 20 rabbits. Upper right central incisors were extracted for all animals, the tooth sockets of the experimental group were dressed using an admix of *Salvadora persica* and *Nigella sativa* immediately after irrigation with normal saline. In contrast, the extraction sockets of the control group were left without dressing. Biopsies were taken after euthanizing the animals at 1, 3, 7, and 14 days after treatment, histological examination was done for the samples at the given periods respectively.

Results: On day 1 post-treatment, histological examination of the experimental group sections showed less acute inflammatory reaction than the control group. This continued to be reduced until the seventh day. The amount of granulation tissue formation was more in the experimental group along the different periods of the study, while new bone formation was observed after 1 week as woven bone, increased after 2 weeks and appeared as woven and lamellar bone in both experimental and control groups.

Conclusions: A mixture of *Salvadora persica* and *Nigella sativa* has an anti-inflammatory effect and accelerate bone healing by stimulating bone formation in the tooth extraction socket.