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Original article

Histological evaluation of the effect of *Nigella sativa* on the healing of created bony defect in the animal jaw

ABSTRACT:

Background: *The bone healing process is a complicated and highly specific action that includes deposition, resorption, and remodeling phases occurring in a tidy and overlapping schedule. Herbal medicine has improved substantially in the last decade, and herbal products have spread widely to prevent or treat various problems and diseases. Nowadays, different herbs are employed to heal soft or hard tissue in humans.*

Purpose: *This study aims to evaluate the effect of topically applying Nigella sativa oil in healing bony defects.*

Methods: *Fifteen rabbits were used in this study. Two round holes were created on the buccal side of the mandible: the anterior hole was filled with black seed oil, while the other was left unfilled as the control group. Animals were sacrificed after 1 week, 2 weeks, and 4 weeks, respectively, and sent for histopathological examination.*

Results: *During the first week of bone healing, the experimental group showed substantially fewer inflammatory reactions than the control group. Granulation tissue formation increased considerably in the experimental group compared with the control group. The experimental group also showed higher bone tissue formation, with more mature woven bone compared with the control group.*

Conclusion: *Nigella sativa has an anti-inflammatory effect and can positively influence bone healing by increasing bone cell production and bone tissue development in the bone defect.*