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Al-Zubaidy, E.Y.[a] , Ghani, B.A.[a] , Ibrahim, N.R.[b]

Local application of Opuntia ficus-indica/Punica granatum oils on cutaneous wound healing: a histochemical study
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[a] Department of Oral Diagnosis, College of Dentistry, University of Baghdad, Baghdad, Iraq
[b] DDS (USM), DClinDent, Oral Pathology, Otago, International Islamic University, Malaysia

Abstract
Background: The healing process involves the restoration of the body's structural integrity. The extracellular matrix, blood cells, cytokines, and growth factors are all involved in this dynamic, intricate, multicellular process. Hemostasis, the inflammatory phase, the proliferative phase, and the maturation phase are all included. Opuntia ficus-indica oil (OFI) and Punica grantum (PGS) oil are extensively used natural treatments that are regarded as advantageous for their sedative, spasmolytic, and anti-inflammatory properties, as well as for angiogenesis promotion, fibroblast increase, collagen production and deposition, and extracellular-matrix remodeling. Materials and methods: Twenty-four New Zealand rabbits were used. Four circular wounds were induced on their dorsum skin with a sterile biopsy punch (8 mm in diameter). A wound on the upper right side left with no treatment healed spontaneously. A wound on the upper left side was treated with OFI. A wound on the lower right side was treated with PGS oil. Finally, the lower left-side wound was treated with a combination of OFI and PGS oils. After each healing period (days 3, 7, and 14), animals were sacrificed to collect specimens by cutting the skin at the edges of the wound by about 5 mm. Results: Collagen formation was faster in the experimental groups than in the control group. Conclusion: Among the experimental groups, the joint local application of OFI and PGS oils was the most effective in improving wound healing by promoting the synthesis of matrix collagen compared with controls. © 2022 by the authors.

Author Keywords
Opuntia ficus-indica oil; Punica granatum seed oil; wound healing

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Correspondence Address
Al-Zubaidy E.Y.; Department of Oral Diagnosis, Iraq; email: golden87rose@yahoo.com

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