



## Platelet rich plasma (PRP) enhances wound healing

Ali Abbas Ajeel <sup>1\*</sup>; Oune Mansour Qussa , Sabah Hassan Askar

<sup>1</sup> Department of surgery/ College of Veterinary Medicine/ Al Muthanna University/ Iraq

### ARTICLE INFO

**Received:** 02.12.2019

**Revised:** 30.12.2019

**Accepted:** 05.01.2020

**Publish online:** 25.02.2020

**\*Corresponding author:**

Ali Abbas Ajeel

Email address:

[draliabbas1972@yahoo.com](mailto:draliabbas1972@yahoo.com)

### Abstract

***Wound healing is a fascinating process***

directed by a myriad of cellular and molecular mechanisms. Many cells are involved in wound healing, and they produce or are sensitive to many molecules, which allow, in physiologic conditions, the repair, or even the regeneration

of injured tissues. Platelets (PLTs) play a central role in the wound healing process since this cytoplasmic fragment possesses not only hemostatic properties, but also pro-inflammatory, regulatory, and regenerative activities mediated by the interaction with cells (neutrophils, and endothelial cells) and by liberating GFs, chemokines and other regulatory molecules. Platelets (PLTs) play a very important role in wound healing since they secrete many growth factors (GFs) and other molecules involved in this process. The main GFs secreted by PLTs include: platelet-derived growth factor (PDGF), transforming growth factor-beta 1 (TGF- $\beta$ 1), TGF- $\beta$ 2, epidermal growth factor (EGF), vascular endothelial growth factor (VEGF), insulin-like growth factor type 1 (IGF-I) and hepatocyte growth factor (HGF). These peptides produce chemotaxis, cellular proliferation and differentiation, neovascularization, and extra-cellular matrix (ECM) deposition, which favors the resolution of inflammation and the healing of the wounds. Review of literature revealed scarce publication regarding applications of platelet-rich plasma in the enhancement of wound healing in Iraq. Therefore, this study aims to review the published articles regarding the role of platelet-rich plasma in the improvement of wound healing.

**To Cite this article:** Ali Abbas Ajeel ;Oune Mansour Qussa , Sabah Hassan Askar . (2019). Platelet rich plasma enhances wound healing. (2019).

MRVSA. 8 (3): 11-19.

Doi: <http://dx.doi.org/10.22428/mrvsa-2019-0083-02>.

**Keywords:** Healing, Wound, IGF-I, VEGF, chemotaxis, growth factor (HGF)