

Healing effects of autologous platelet gel and growth factors on cutaneous leishmaniasis wounds in addition to antimony; a self-controlled clinical trial with randomized lesion assignment

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Abstract

Objective: Autologous platelet gel (APG) is used in most surgeries to treat a variety of tissue defects because of its healing factors composition. This randomized parallel clinical trial was conducted to investigate the healing effects of APG on cutaneous leishmaniasis (CL) wounds. Eighteen male patients with CL wounds were recruited and followed for two months. The patients had more than one cutaneous wound, one of which was examined as the control and the other one as the intervention wound. APG was applied to the intervention wounds once a week, up to eight times. The primary endpoint was wound healing which defined as complete epithelialization and tissue granulation. Other clinical evaluation criteria were assessment of the wound size, and histopathology analyses.

Results: Of 18 patients, 15 patients completed the trial (83.3%, mean age 28 years). The use of APG on the wounds was associated with complete and faster healing in 66% of the wounds and partial healing in 34% of the wounds. During the study, none of the control wounds were completely healed. The wound area in the intervention cases showed a statistically significant decrease throughout the study ($P < 0.01$) compared with controls. Following treatment of CL lesions with APG, the inflammatory process in the epidermis and dermis were decreased significantly ($P < 0.01$) compared with controls.

Conclusion: Our preliminary results confirm the clinical healing improvement described in the literature for APG-GF treatment of chronic non-leishmania wounds via immunomodulation.

Keywords: Platelets gel, Cutaneous leishmaniasis, Growth factors, Wound healing