

WOUND CARE, TISSUE REPAIR & REGENERATIVE MEDICINE

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NEW APPROACH FOR THE TREATMENT OF CHRONIC CUTANEOUS WOUNDS: COMPARISON BETWEEN TWO METHODS

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Introduction: Chronic wounds are a health problem of enormous social and economic relevance. In the field of regenerative medicine, different innovative strategies have been studied for treating hard-to-heal wounds. Among these, adipose stem cells (ASCs), which are mesenchymal stem cells harvested from the subcutaneous adipose tissue, have shown significant proliferative capacity in culture and multilineage potential, while platelet-rich plasma (PRP), a concentrate of autologous platelets in a small volume of plasma, can release growth factors through vesicle degranulation. Both are capable of promoting wound healing.

Methods: Thirty patients with chronic skin ulcers were divided into two equal groups: the ASC group and the PRP group.

Results: At the end of the study, 72.22% (n = 13) chronic skin wounds in the ASC group and 17.86% (n = 5) wounds in the PRP group had healed completely. A 50% reduction in wound area occurred in 100% (n = 18) wounds in the ASC group and 35.71% (n = 10) wounds in the PRP group. All patients from both groups complained of minimal local pain at the injection site; no local or systemic signs of infection were noticed. One patient required from the PRP group required lower limb amputation and was excluded from the group.

Discussion: ASCs and PRP are known to enhance wound healing through their ability to induce angiogenesis and growth factor release, respectively. ASC treatment was more effective than PRP administration. Therefore, ASC therapy should be preferred to PRP for the treatment of chronic skin ulcers. PRP administration is an effective alternative when the general condition of the patient does not allow any surgery.