



Efficacy of cord blood platelet gel application for enhancing diabetic foot ulcer healing after lower limb revascularization

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ABSTRACT

The efficacy of umbilical cord blood platelet gel (CBPG) application on healing foot ulcers was analyzed in 10 diabetic patients treated for critical lower limb ischemia by surgical or endovascular arterial revascularization. During a 9-month period, 20 diabetic patients affected by critical lower limb ischemia with tissue loss were enrolled in this nonblinded, consecutive series, randomized clinical trial. After clinical evaluation, patients underwent endovascular or surgical revascularization of the affected limb, followed by minor amputations or surgical debridement of ischemic lesions. Patients were then randomly divided into two groups: 10 patients in Group A treated with standard wound care and 10 patients in Group B treated with topic application of CBPG. The CBPG protocol consisted of platelet gel application twice a week for 4 weeks and then once a week for an additional 4 weeks. Healing was assessed by direct ulcer dimension tracing onto clear plastic sheet and subsequent computerized planimetry. The mean pretreatment and post-treatment ulcer areas at 30 days for Group A were 15.1 cm² and 8.1 cm², respectively, and for Group B were 15.7 cm² and 3.25 cm², respectively; resulting in a mean ulcer area reduction of 46% for Group A and 79% for Group B patients ($P < .01$). These observations suggest CBPG application can promote more rapid wound healing than standard care, and indicate the need for a randomized, multicenter trial to confirm clinical efficacy.

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