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Utility of autologous bone marrow stem cells for treatment of chronic leg ulcer

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Background: Chronic leg ulcer is a major health problem which may associate different diseases as vascular, neoplastic, infectious diseases and trauma as well. The patients suffer from many complications as infection, septicemia, psychology troubles and physical inability leading to many economic troubles the last line of treatment is amputation with its high rate of morbidity and mortality.

Aim: The study was design for randomized controlled clinical trial in an attempt to assess the potential treatment of chronic leg ulcer through the use of the autologous bone marrow stem cells.

Patients & Methods: Fifty patients with chronic leg ulcer were included from vascular surgery department Tanta University Hospital. Patients were divided randomly into two equal groups, each group included 25 patients. In group I, the patients were subjected to autologous transplantation of bone marrow derived CD34+ mononuclear cells into the depth and around the ulcer. In group II (control group), saline dressing to the leg ulcer was done.

Results: In group I, 14 patients were males and 11 were females, age ranged from 19 to 66 years with mean age of 48.7 years while in group II 13 patients were males and 12 patients were males with mean age of 51.2 years and age ranged from 21 to 63 years. In group I, the follow up period ranged from 6 to 24 months. Complete ulcer healing occurred in 12 patients (48%), partial ulcer healing in 10 patients (40%) and no healing in 3 patients (12%). In group II, the follow up period ranged from 8 to 24 months. Complete ulcer healing occurred in 2 patients (8%), partial ulcer healing in 3 patients (12%) and no healing in 20 patients (80%). In group I, the overall patients satisfaction and pain relief was found in 18 patients (72%) while in group II only 4 patients (16%).

Conclusion: Autologous transplantation of bone marrow derived CD34+ mononuclear cells is a simple, safe and effective modality of treatment for chronic leg ulcer.

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