

Our experience of application of Autologous Bone Marrow Stem Cells in critical limb ischemia in six diabetic patients – A five-year follow-up

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Abstract

Background:

Numerous Clinical studies have reported the safety and efficacy of injection of one Marrow and Peripheral Blood Mononuclear cells in patients with lower limb ischemia. Earlier we have reported the six months follow-up of successful application of autologous bone marrow mononuclear cells in patients with Fontaine Stage IV critical limb ischemia due to diabetes. As a continuation of the previous study, herein we report the long term results of the six patients after a follow-up for five years.

Materials & Methods:

Six Diabetic patients with Fontaine Stage IV critical limb ischemia with ulcers were given intra-lesional injections of their autologous bone marrow mononuclear cells (BMMNC), isolated following the cGMP protocols. The patients have been followed up at regular intervals for five years after the treatment with all relevant clinical investigations.

Results:

Six months follow-up results revealed that all the patients showed improvements with appearance of healthy granulation tissue and uniform revascularization. Complete healing was reported at a mean duration of nine months in five patients and one patient died due to a complication of renal failure, peritoneal dialysis and cardiac failure, which were unrelated to the BMMNC injection. Five year continuous follow-up revealed that the healed tissue with or without skin grafting remained healthy in all the five patients and two of the patients are able to walk without support with a pain free walking distance of greater than 100m. There were no adverse effects in any of the patients..

Conclusion:

Autologous bone marrow stem cell therapy has been found to be salvaging the affected limb in patients with Fontaine Stage IV Critical Limb ischemia patients where revascularization was not feasible. Hence with our experience of six patients we recommend that the same should be considered in patients of similar clinical parameters before considering an amputation.