

Autologous bone marrow mesenchymal stem cells implantation for cartilage defects: two cases report. Kasemkijwattana C1, Hongeng S, Kesprayura S, Rungsinaporn V, Chaipinyo K, Chansiri K. *J Med Assoc Thai.* 2011 Mar;94(3):395-400.

Abstract

OBJECTIVE:

The authors reported the results of autologous bone marrow mesenchymal stem cells (BM-MSCs) implantation in two patients with large traumatic cartilage defects of the knee.

MATERIAL AND METHOD:

Two patients with grade 3-4 according to the International Cartilage Repair Society Classification System were performed autologous bone marrow mesenchymal stem cells (BM-MSCs) implantation on December 2007 and January 2008. The bone marrow aspiration was performed in the outpatient visit under local anesthesia and sent to the laboratory for BM-MSCs isolation and expansion. The BM-MSCs were re-implanted into the defects with the three-dimensional collagen scaffold. The patients were clinical evaluated preoperatively and postoperatively with Knee and Osteoarthritis Outcome Score (KOOS), International Knee Documentation Committee Score (IKDC Score) and arthroscopic examination. The duration of follow-up was 30-31 months.

RESULTS:

There was no postoperative complication. The clinical evaluation with Knee and Osteoarthritis Outcome Score (KOOS) and International Knee Documentation Committee Score (IKDC Score) showed significant improvement. The arthroscopic assessment showed the good defect fill, stiffness and incorporation to the adjacent cartilage.

CONCLUSION:

The autologous bone marrow mesenchymal stem cells implantation showed the potential for the treatment of large cartilage defects. The one-stage procedure is the advantage over the conventional autologous chondrocytes implantation. The long-term follow-up with long last hyaline-like cartilage is required.

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