

Treatment of Osteonecrosis With Autologous Bone Marrow Grafting.

SECTION I SYMPOSIUM

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Abstract:

Core decompression with bone graft is used frequently in the treatment of osteonecrosis of the femoral head. Many different techniques have been described. In the current series, grafting was done with autologous bone marrow obtained from the iliac crest of patients operated on for osteonecrosis of the hip. The results of a prospective study of 189 hips in 116 patients treated with core decompression and autologous bone marrow grafting are reported. Patients were followed up from 5 to 10 years. The outcome was determined by the changes in the Harris hip score, by progression in radiographic stages, and by the need for hip replacement. The bone marrow was harvested with the patient under general anesthesia. The usual sites were the anterior iliac crests. The aspirated marrow was reduced in volume by concentration and injected into the femoral head after core decompression with a small trocar. When patients were operated on before collapse (Stage I and Stage II), hip replacement was done in nine of the 145 hips. Total hip replacement was necessary in 25 hips among the 44 hips operated on after collapse (Stage III and Stage IV). To measure the number of progenitor cells transplanted, the fibroblast colony forming unit was used as an indicator of the stroma cell activity. Patients who had the greater number of progenitor cells transplanted in their hips had better outcomes.