

Core Decompression

Core Decompression With Bone Grafting for Osteonecrosis of the Femoral Head

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Although core decompression is one of the more popular procedures for treating avascular necrosis, considerable controversy exists concerning its safety and effectiveness. The current authors review the results of a prospective study of 406 hips in 285 patients treated by one surgeon with core decompression and bone grafting. Patients were followed up for 2 to 14 years. The outcome was determined by the change in the Harris hip score, quantitative radiographic measurements, and need for total hip replacement. These hips were compared with 55 hips in 39 patients treated nonoperatively and with historic controls. Five complications occurred after 406 procedures including two fractures that resulted from falls during the first postoperative month. Of the 312 hips in 208 patients with a minimum 2-year followup, 36% of hips (113 hips in 90 patients) required hip replacement at a mean of 29 months: 18 of 65 hips (28%) with Stage I disease; 45 of 133 hips (34%) with Stage II disease; three of 13 hips (23%) with Stage III disease; and 45 of 92 hips (49%) with Stage IV disease. Before femoral head collapse (Stages I and II combined) hip replacement was

performed in 10 of 77 hips (14%) with small lesions (A), 33 of 68 hips (48%) with intermediate lesions (B), and 20 of 48 hips (42%) with large lesions (C). Results as determined by changes in Harris hip scores and radiographic progression were similar. Patients who underwent core decompression and bone grafting have a very low complication rate. In patients treated before femoral head collapse, the outcome is significantly better than in patients who received symptomatic treatment. The results are correlated with the stage and the size of the necrotic lesion.

It has been well documented that without specific treatment approximately 70% to 80% of hips with clinically established avascular necrosis have radiologic and clinical progression, which leads to collapse of the femoral head.^{7,9,10,16,18,19} Most of these hips eventually undergo total hip replacement or other types of arthroplasty. Because this is a condition seen primarily in younger adults, several prophylactic