Osteosynthesis with Distal Radial Cancellous Graft for Scaphoid Nonunion

Jae Kwang Kim, MD. PhD
Porfessor, Department of Orthopedic Surgery, Asan Medical Center,
University of Ulsan College of Medicine, Seoul, South Korea

Introduction: This study was undertaken to determine whether corticocancellous bone grafting and cancellous bone grafting differ in terms of bone union rate, restoration of scaphoid anatomy, and wrist function when unstable scaphoid nonunions are concomitantly treated by screw fixation.

Materials and Methods: This is retrospective cohort study. In Group A (17 patients), unstable scaphoid nonunion was treated with corticocancellous graft harvested from the iliac crest and headless compression screw using volar approach. In Group B (18 patients), unstable scaphoid nonunion was treated with cancellous graft harvested from the distal radius or iliac crest and headless compression screw using volar approach

Results: Mean time to union was significantly greater in Group A (15 weeks vs. 11 weeks). No significant intergroup difference was observed for lateral intrascaphoid angle and height to length ratio after treatment of scaphoid nonunion. No significant intergroup difference was observed for grip strength, wrist range of motion, or DASH scores at 1 year postoperatively.

Conclusions: Cancellous bone grafting was found to lead to earlier bone union than corticocancellous bone grafting and to similar restorations of scaphoid deformity and wrist function when scaphoid nonunion was treated by headless compression screw fixation and bone grafting.