

Kienböck's Disease; a Retrospective Review of 100 Surgical Cases

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Background : Treatment of Kienböck disease remains controversial. The purpose of this study was to retrospectively review and compare outcomes of our surgical treatment modalities in management of different stages of Kienböck disease.

Methods : A retrospective review of 147 patients with average age of 35.9 years (13-75 years) and average follow up of 42.5 months (12 months-29 years) undergoing surgical interventions for management of Kienböck disease between 1976 and 2001 was performed. All patients with less than 12 months follow up were excluded. Patients' demographics, duration of symptoms, outcome measures, range of motion, grip and pinch strengths were recorded and compared in different stages of the disease with attention to the surgical intervention. Radiological assessments including carpal height and Stahl's indices were recorded.

Results : Out of 147 patients, 115 met the inclusion criteria. One-hundred patients had accessible preoperative and follow up radiographs. There were a total of two patients in stage I, 23 stage II, 42 stage IIIA, 29 stage IIIB, and 4 in stage IV. In early stages of Kienböck disease (stages I and II), there was no benefit noted between different surgical methods for range-of-motion, DASH, or PRWE scores. Patients in stage IIIA and IIIB had stable or slight improvement in wrist motion after vascularized bone graft compared to a decrease in flexion-extension and radio-ulnar deviation arcs after radial shortening, and scaphocapitate arthrodesis. Thirteen patients (13.7%) underwent revision procedures. There were no significant differences noted in revision rates, DASH, and PRWE scores between any of the procedures at any stage.

Conclusions : In conclusion, pedicled vascularized bone graft could be a superior option for preservation of range-of-motion and improving grip strength with adequate pain relieve for stages II, IIIA, and IIIB. Proximal row carpectomy led to a loss of motion and decreased grip strength in stage IIIB and IV patients. Hence, in a young patient this should only be performed in selected cases.