

Scaphoid Excision and Midcarpal Joint Arthrodesis in a High Risk Patient

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Clinical Presentation

The patient is a 55 year-old right-handed male with a history of worsening right wrist pain over the past several years. He reported that activities of daily living had become increasingly difficult to perform and he had failed previous therapy with wrist splints and corticosteroid injections. He was 7 months s/p liver transplant for alcoholic cirrhosis and experienced continued pain despite taking daily oral prednisone. The patient had PMH significant for insulin dependent diabetes and hypertension in addition to his recent liver transplant. He was on several immunosuppressive drugs and complained of specific difficulty opening pill bottles and giving himself injections.

Physical Examination

Examination of his right wrist demonstrated synovitis over the dorsal aspect of the wrist with tenderness to palpation at the radiocarpal joint in that area. The patient had limited wrist flexion and extension to 30° with pain. He had a positive Watson's test and crepitus with range of motion. Radiographs demonstrated degenerative changes consistent with scapholunate advanced collapse (SLAC) and a dorsal intercalated segment instability (DISI) deformity.

PRE-OP RADIOGRAPHS



Surgical Management

A longitudinal dorsal incision and capsulotomy were performed to provide access to the carpus. The scaphoidectomy was performed with care taken to preserve the radioscaphocapitate ligament volarly. The articular surfaces of the capitate, lunate, triquetrum, and hamate involved in the four-corner fusion were prepared with the use of curettes and a small burr. Cancellous autograft was also obtained from the distal radius.

A 0.062 inch Kirschner wire was placed into the lunate to use as a joystick to facilitate correction of the DISI deformity. The K-wire was thoughtfully placed away from the anticipated site of the CarpalFix™ X-Post™. Next, the X-Post™ was placed into the lunate and countersunk approximately 2mm. Care was taken to assure that the X-Post™ was positioned appropriately for lag screw placement into the capitate with the lunate reduced. The X-Post™ was then placed into the triquetrum in a similar fashion. The cancellous autograft was then placed at the arthrodesis sites and the lag screws were placed through the respective X-Posts™ into the capitate and hamate. Care was again taken to confirm reduction of the lunate out of a DISI position prior to instrumentation. More details about the technique can be found in the Extremity Medical CarpalFix™ Surgical Technique guide.

INTRA-OPERATIVE RADIOGRAPHS



POST-OPERATIVE RADIOGRAPHS (6 WEEKS)



Outcome

This patient went on to a solid fusion despite the numerous risk factors for nonunion. He is pleased with his outcome and is able to perform his activities of daily living without pain, as the risk of hardware irritation and subsequent removal procedures have been minimized with this form of intraosseous fixation.