Proximal Row Carpectomy with Resurfacing of both Lunate Fossa and Proximal Capitate Using a Femoral Osteochondral Graft: A case Report

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Introduction: The treatment of the panarthritic wrists in the young patient due to traumatic injuries especially when both lunate fossa and capitate head are involved has few surgical options being the most acceptable the total wrist fusion. We present a case-report of an alternative technique of proximal row carpectomy associated with bifocal osteochondral graft to treat a SNAC IV wrist in a young patient.

Case-Report: We performed in a 23-years-old male patient a proximal row carpectomy associated with a bifocal osteochondral graft from the lateral femoral condyle to resurface an important arthritic degeneration of both capitate head and lunate fossa due to a sequel of an open trans-styloid trans-scaphoid perilunate fracture-dissociation. Pre-operatively, he had 20kg of grip strength (50% of the contralateral side), 65 degrees of flexion-extension motion (35/30) and pain of intensity of 10/10 in the visual analogic scale.

The procedure was made under general anesthesia and pneumatic cuff. We performed a dorsal approach, just ulnar to Lister’s tubercle. The interval between the third and fourth compartments was opened and the tendons were retracted after tenolysis. The posterior interosseous nerve was resected and a Berger’s capsulotomy was made. We confirmed the articular degeneration seen in the arthroCT as well as the bad quality of the cartilage of the resected bones. So, we harvested 2 cylinders of 6 and 8mm in diameter of osteochondral graft from the lateral non-articular part of the femoral condyle with the use of Osteochondral Autograft Transfer System (OATS; Arthrex, Inc, Naples, FL). After that, we made identical mirror-size holes in the lunate fossa and capitate head to fit our graft. There was no crepitation or articular step visible in the intra-operatory (figure 3). The patient was immobilized with a short-arm splint for 6 weeks and then physiotherapy was started.

Results: At the 18-month follow-up, the patient is pain-free with 60 degrees of flexion-extension motion (30/30), 22kg of grip strength (61% when compared with the contra-lateral side), completely integrated graft and no signs of degeneration of the resurfaced area at this follow-up period.

Summary: We conclude that, despite being only one case, the resurface of the capitate head and lunate fossa by an osteochondral graft can be an alternative for young patients with advanced arthritis preserving some motion of the wrist.