



Modification of Sauvé-Kapandji Procedure for the Treatment of DRUJ Arthritis

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Introduction

One of the most popular options to manage distal radioulnar joint (DRUJ) disorders is the Sauvé-Kapandji (S-K) procedure. The procedure originally consists of DRUJ arthrodesis and distal ulnar segmental resection, described as “about one-half inch higher up a half-inch is taken out of the shaft of the ulna”

However, complications after the original S-K procedure are not rare. The distal end of the proximal ulna is a usual source of those complications. Stump pain, feelings of instability of the ulnar shaft proximal to the resection level, and especially, impingement of the ulnar shaft against the radius have all been reported.

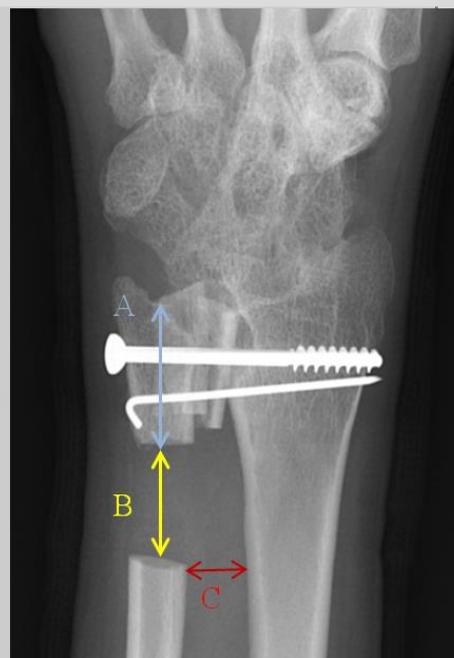
The authors modified the original Sauvé-Kapandji (S-K) procedure (1 cm resection of distal ulna with 1 cm distal ulna left) to 2 cm resection at 2 cm proximal from distal ulnas head, and experienced good results without distal ulna-radius impingement or distal ulna instability.

Materials and Methods

The clinical results of 28 patients, who underwent the modified S-K procedure for the treatment of DRUJ arthritis or instability, were reviewed.

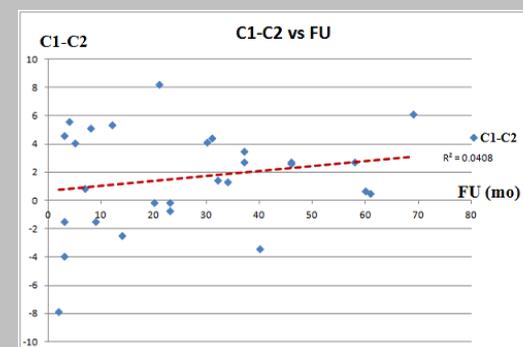
The patients were operated between March 2008 and January 2015, and were 9 male and 19 female patients. Modified S-K technique was defined as the 2 cm ulna head arthrodesed to the distal radial sigmoid notch, and the 2 cm gap is created with the resection of ulna proximal to the remained ulnar head.

The interposition of the resected ulnar cortical half segment to widen the narrow wrist width from the already destructed and deepened sigmoid notch.

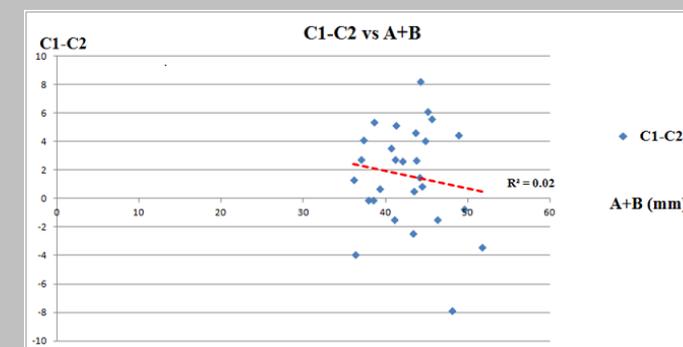


Results

The average remained ulna head was 21 mm in length and the gap was also 21 mm. The average postoperative distance between the distal tip of ulna and radius was 9.3 mm, and the distance at final FU was 7.7 mm, resulting C1-C2 about 1.6 mm. There was a trend of C1-C2 was increasing as FU period increased, and a trend as a longer ulnar shortening, C1-C2 is decreased, inferring the change of distance of the distal ulnar tip and radius is smaller in longer resection than shorter



C1-C2 : change of the distance between distal ulnar tip and radius after the follow-up period



A + B : total shortening of ulna, C1-C2 : change of the distance between distal ulnar tip and radius after the follow-up period

Discussion

Most authors have reported good to excellent results after the S-K procedure. However, there are still unsolved problems after this procedure, and the development of the painful instability of the proximal ulnar stump is the most common. There are several suggestions to avoid these possible complications. Our results indicate that the resection level of distal ulna at about 4 cm proximal to the ulna pole is safe, and the stump end is not so unstable to create ulnar stump pain, irritation of ECU tendon, and distal ulno-radial impingement. In spite of the significant increase of the forearm rotational movement the VAS was significantly decreased to ease the clinical symptoms of the patients.