

Sauve-Kapandji Procedure in Post-Traumatic Ulnar Positive Variant

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There are many procedures under practice to deal ulnar positive variant, produced after Colle's fracture with upward axial displacement of radius. The purpose of this study is to see the effects of Sauve-Kapandji procedure in five patients. The main aspect of this study was about pain relief and range of active movements both at wrist and distal radio ulnar joint

Key words: Sauve Kapandji, post-traumatic .

Apart from other reasons, some of the important factors associated with unsatisfactory results in maluniting distal radius fractures are ulnocarpel impaction and incongruity or orthosis of distal radioulnar joint (DRUJ). Sauve-Kapandji procedure is one of the available procedures to deal with this problem. The purpose of this article is to review Sauve-Kapandji procedure effectiveness in our five cases.

Material and method

S-K was carried out in five patients who were followed for a time that ranges from 12 months to 48months. There

were 3 males and 2 females. The age ranges from 40-70 years. All cases were initially treated with closed reduction and below elbow POP cast.

On preoperative x-ray evaluation the ulnar variant ranges from 5mm to +10mm. In 4 cases arthrosis of DRUJ was noted on x-ray. Level of pain was graded as mild (+) moderate (++) and severe (+++) according to Fernandez's criteria.

In all cases moderate to severe pain was present on active wrist motion and rotation of forearm. The Patient data is shown in table 1.

Table 1

| Case | Sex | Age (Years) | Measurement of ulnar variant in mm Pre/Post Op. | Pain in ulnar impaction test pre/post op. | Active Pre/Post Op ROM | | | | Grip strength (Kg) pre/post op. |
|------|-----|-------------|---|---|------------------------|---------------|--------------|--------------|---------------------------------|
| | | | | | E&T pre/post | Flex Pre/Post | Pre Pre/Post | Sup Pre/Post | |
| 1 | M | 40 | +8/0 | +++/- | 20/25 | 30/45 | 70/90 | 10/80 | 10/25 |
| 2 | F | 55 | +5/- | +++/- | 50/50 | 20/80 | 70/90 | 30/80 | 6/16 |
| 3 | F | 70 | +10+/-5 | +++/+ | 0/65 | 60/60 | 20/70 | 30/80 | 2/4 |
| 4 | M | 50 | +8/-5 | ++/- | 60/60 | 30/50 | 40/90 | 70/80 | 53/80 |
| 5 | M | 85 | +6/0 | ++/- | 40/55 | 40/50 | 60/85 | 40/70 | 10/30 |

Results

As seen from the table pain reduction occurred in all patients, four patients ended in complete painless wrists, while one had mild pain on extreme degree of pronation and supination. Similarly active range of motion at wrist level and DRUJ increased to varying degree. All patients showed clinical and radiological evidence of fusion at DRUJ level. Grip strength as shown in Table 1 also increased.

Discussion

In positive ulnar variant several surgical procedure are present which aim to ulnar shortening. Relief of pain and increased range of mobility at wrist can be expected by Darrach procedure. But loss of ulnar collateral ligament support, ulnar translation of carpal bones, wrist instability and diminished grip strength can occur with Darrach procedure. Bower's hemiresection orthoplasty depends upon integrity of Triangular Fibro Cartilage (TFC). However, TFC tears have been noted in a significant

number of fractures of lower end of radius. Geissler et al reported TFC tears in 26 out of 60 fractures. S-K has got many advantages. S.K. solves the anatomical problems related to DRUJ. It corrects the ulnar positive variant and thus removes ulnar impaction and compression force on TFC. By preserving the ulnar head as a whole, allows a more physiological pattern of force transmission and prevents ulnar head provides support to ulnar collateral ligaments of the wrist and insertion of extensor carpi ulnaris tendon.



Figure: Pre op

The main disadvantages of the S-K is due to unstable ulnar stump. This instability can produce pain, but the patients are pleased with both functional and cosmetic results.

The S.K. is acceptable procedure especially in DRUJ disorders, but S.K alone cannot reconstruct all anatomical defects in malunited fractures of lower radius.

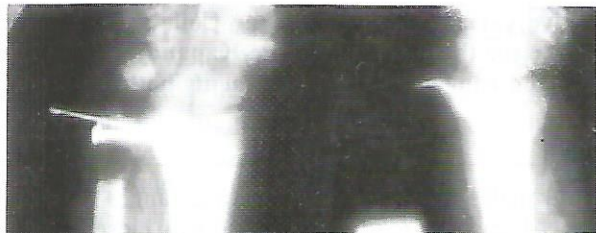


Fig. Post op

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