Reverse Sauvé-Kapandji procedure in the treatment of type III proximal radioulnar synostosis

Isidro Jiménez, Pedro J. Delgado
Hospital Universitario HM Montepríncipe
Madrid, Spain

1– Introduction

- Proximal radioulnar synostosis is rare in its congenital form and it is even rarer as a posttraumatic complication.
- Surgery potentially allows for better functional results although the ideal technique remains controversial.
- Synostoses at the proximal forearm are especially difficult. Bone bridge excision endangers local neurovascular structures and the improvement in prono-supination is often unpredictable.

2– Methods

- Two cases in two males of 24 and 47 years old after falling from two metres height.
- One non-displaced olecranon and radial head fracture 10 years before (Case A). One open elbow fracture-dislocation 6 months before (Case B)
- ROM in first case was extension 0°, flexion 130° but prono-supination was fixed in 0°.
- In case 2, the elbow was fixed at 100° of flexion, supination 20° and pronation was 60°.
- The Sauvé-Kapandji technique is a combination of arthrodesis of the distal radioulnar joint and ulnar resection-osteotomy proximal to the arthrodesis. In the treatment of a proximal radioulnar synostosis we already have the arthrodesis so we should only achieve the nonunion of the proximal radius.

3– Results

- Case A: At 2 years FU: ROM was extension 0°, flexion 130°, 40° supination and pronation 35°. No complications.
- Case B Two years after surgery, ROM was stabilized in flexion 125°, extension 30°, supination 40° and pronation 75° with no bone bridge at the osteotomy site and no complications.

- The reverse Sauvé-Kapandji procedure is a safe technique.
- It is useful to restore a functional arc of motion.
- It would be recommended in synostosis type III of Vince and Miller if the synostosis is too extensive for a safe resection, there are anatomic deformities or synostosis involve the intra-articular surfaces.

4– Conclusions