Simultaneous Fixation of the Volar locking screw plate and the Ulnar hook plate ant
the Distal Radius Fracture, where the Main Fracture Line is Located in the Distal
Part of the Watershed Line
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Introduction

- Watershed line
  - Useful surgical landmark for positioning a volar locking plate
  - Distance from joint line to watershed line
    * Ulnar side: 2mm
    * Radial side: 10~15mm
- Plate selection
  - Intra-articular distal radius Fracture (AO 23-B,C)
    + Fracture involve watershed line
    => not easy to reduction & Fixation
- Treatment options
  - Volar locking plate
    * Difficult to fix articular side
    * Possible flexor tendon injury
  - External fixation with/without pinning
    * Infection
    * Late motion

Suggestion Technique

- Firm fixation
  + Minimizing flexor tendon injury
  + Easy fixation technique
- Variable angle volar locking plate + 2.0mm ulnar hook plate
- Another options, Two 2.0mm ulnar hook plate

Materials and Methods

- AO classification 23-B,C + Main fracture line involving watershed line
- 12 Patients (Male : Female = 4 : 8)
  - AO classification B: 1 Patient
  - AO classification C: 11 patients

Surgical Techniques

- Prepare the patient as supine position under general anesthesia
- Make a skin incision on volar side of the wrist joint
- Perform open reduction under C-arm
- Fix LCP distal ulnar hook plate while hanging to the distal fragment and applying
  force to proximal direction
- Fix the volar locking plate not to exceed the watershed line

Postoperative Rehabilitation

- Early ROM
  - POD 2 days: Remove short arm splint, Start active wrist & digit ROM
  - POD 6 weeks: If LOM remains, start passive ROM exercise

Postoperative Evaluation

- Mayo score: POD 2 day, 3 month, 6 month
- Radiographic outcome: POD 3 month, 6 month