

New Light Upon Your Shoulder

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Arthroscopic fixation with knotless double row construct for displaced greater tuberosity fractures

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Introduction

Greater Tuberosity Fractures

- ◆ Common fractures : 20% proximal humerus fractures.
- ◆ Oftenly associated with a shoulder dislocation (20-30%)
- ◆ Surgical when displaced >5-10mm
- ◆ Surgical options :
 - Open surgery : plate, screws and wires
 - Arthroscopic technique



Purpose

To evaluate the outcome after greater tuberosity fractures operated under arthroscopy using knotless suture-bridge (double row) construct with tapes

Materials and Methods

13 patients (13 shoulders)

- Mean age: 39 years (± 13.2)
- 11 ♂ / 2 ♀
- 10 right / 3 left

- 13 displaced GT fractures (systematic CT –Scan)
- 5/13 after shoulder dislocation

- Same arthroscopic fixation
- One single surgeon

#2 FiberWire
Tip Retention
Suture

Thumb Pad



*SwiveLock preloaded with
#2 FiberWire Tip Retention
Suture provides an opportunity
to augment the repair with a
knot tying option*

Fully threaded and vented
anchor body in 4.75 and
5.5 mm diameters

PEEK Eyelet

Materials and Methods: Surgical Procedure

1. General anesthesia / Beach chair position / 5 portals
2. Direct exploration of the joint

Benefits after shoulder dislocation



Possibility to perform a Bankart-repair if needed

3. Exploration of the fracture

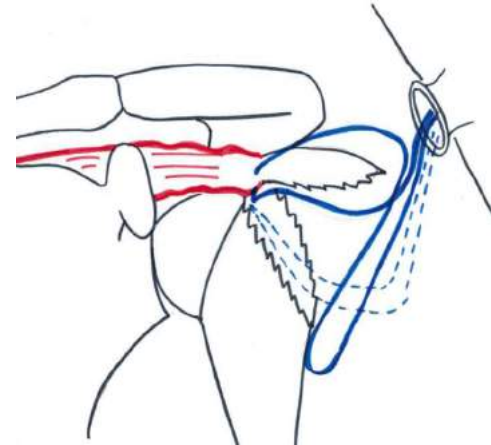


Materials and Methods: Surgical Procedure

4. Reduction and fixation with anchor suture bridge

1. 2 medial anchors

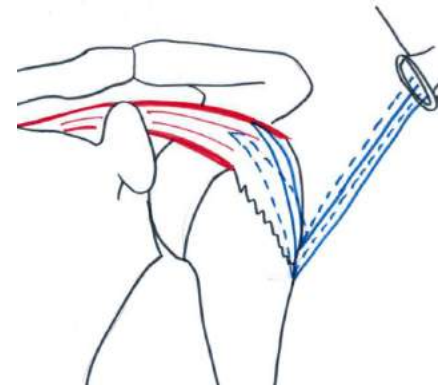
- *Swivelock 4,5 mm, Arthrex®, Naples, FL*
- Pre-loaded with 2mm-wide tapes (*Fibertape, Arthrex®*)



2. Passing the tapes through the supraspinatus tendon

3. 2 lateral anchors

- *Swivelock 4,5 mm, Arthrex®, Naples, FL*
- Reduction was obtained after tensioning the tapes



Materials and Methods: Rehabilitation & Evaluation

I- Rehabilitation, same as for rotator cuff repair :

- First 3 weeks:
 - Pendulum exercises + passive elevation and external rotation
- At 3 weeks:
 - active-assisted ROM exercises
- At 6 weeks:
 - active ROM exercises

II -Evaluation :

- Clinical and radiographical examinations
 - After 6 weeks, 3 months, 6 months and 1 year
- Constant score at regular follow up
- All complications were recorded

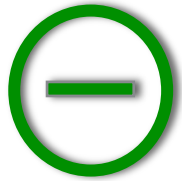
Outcomes

- Mean follow-up: 28 months (17-32)
- Mean delay trauma-surgery : 5 days
- **Constant score: 82 (+/- 5.6)**
 - AE 140°
 - Pain 12.6(+/-2.1) /15
 - Daily activity 8.3 (+/-1.2) /10
 - Muscular strength 16 (+/-2.1) /25
- Pain evaluation: EVA 2.3 (+/-1.2)
- Complications :
 - 2 CRPS
 - 1 peroperative conversion to open:
(failed lateral row in osteoporotic bone)
- **Bony union in all cases** after 3 months



Discussion

Benefits of this arthroscopic suture bridge fixation:



- Osteoporotic bone increases the risk of displacement of the anchors
- Technically demanding : exposure, **management of bleeding...**



- Minimizes dissection and decreases morbidity
- Adapted in case of comminution and small fragments
- Treatment of associated lesions (SLAP, cuff tear, Bankart lesion)
- No need for systematic hardware removal

Thank You

