Arthroscopic Radial Styloidectomy

Technic, Indication, Results

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History

First description radial styloidectomy in association with the treatment of scaphoid pseudarthrosis


First description of an arthroscopic radial styloidectomy by RUCH in 1998


Indications

- Radio-scaphoid impingement
  - SLAC (Scapho-Lunate Advanced Collapse)
  - SNAC (Scaphoid Non-union Advanced Collapse)
- Complications of distal radius fractures
  - Malunion
  - Pseudarthrosis
Bad or non-indications

- **Medical**
  - Global arthrosis of the wrist (luno-capitate)
  - If patient wants a « one shot procedure »

- **Others**
  - Patient waiting for compensation (work accident, aggression, etc.)
  - Multi-operated patients (2 CT, 2 ulnar nerves, 2 epicondylitis, 2 De Quervain, etc.)
Traction is necessary (as usual); shoulder traction or traction tower. Ensure installation before fixing the arm.
Procedure

- Optic is introduced using 3-4 portal
- 1-2 portal is used for the shaver
  - Clean the soft tissues around radial styloid to have a better view of the part of the radius you will remove
  - Synovitis is frequent

- Then begin to use the burr

- You can switch between the burr and the shaver
What should be the size of the resection?

RCL : Radio-Collateral Ligament
RSC : Radio-Scapho-Capitate Ligament
RSL : Radio-Scapho-Lunate Ligament
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During your learning curve:

- X-ray during or at the end of the procedure to verify the quality of your resection
- Open if it’s necessary (It’s not a crime…)
  - > 1 hour
  - If resection is not enough
  - If you are not sure...
- After the operation
  - Styloïdectomy alone: free mobilisation
  - Cast or splint
    - To prevent pain (hemarthrosis)
    - Associated procedure
Litterature

- Few articles


- One specific article about this topic:
- Learning curve
  - New procedure
  - Easier with knowledge of
    - Arthroscopy (even from an other articulation)
    - Wrist surgery

- Articular fractures of the distal radius
  - Excellent for the learning curve of wrist arthroscopy
  - Numerous patients
  - No risk
Interest?

- Non iatrogenic procedure (most of the time)
- Quick solve of a painful wrist with no longer immobilisation
- Total exploration of the wrist with entire diagnosis of all possible injuries
- If bad result, open surgery always possible
12 patients (52 to 76 years old) suffering of a SLAC wrist stage I or II.

Operated between 2004 and 2008: arthroscopic radial styloidectomy.

All patients were reviewed mean follow-up: 39 month (12-48)
## Results

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<thead>
<tr>
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<th>Pre-op</th>
<th>last revision</th>
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<tr>
<td>pain (EVA)</td>
<td>7.6</td>
<td>1.9</td>
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</table>
| ROM              | F/Ext: 72° (45°- 27°)  
IR/IC: 35° (15°-20°) | F/Ext: 80° (45°- 35°)  
IR/IC: 36° (17°-20°) |
| strengh: opposite side | 65%    | 83%           |

- resolution of painful wrist: 80% (50-100%)
- all patients satisfied
- no complication
Radio-carpal impingement (SLAC Wrist stage 2)
Reason for consultation: painfull wrist ++++
Clinical exam: F/E=50°/20° IR/IC=10°20°, painfull radial styloid
Possible therapeutics:
- first row carpectomy
- partial arthrodesis of the wrist
- arthroscopic radial styloidectomy

6 months !!!
Slac wrist
Conclusion

- Mini-invasive surgery, early rehabilitation
- Palliative surgery
- Best patient:
  - SNAC/SLAC II
  - Good strength and mobility
  - Painful wrist
- FRC or partial arthrodesis always possible in case of failure
- Must be a part of your therapeutic
Thank you for your attention