Preliminary Results in AC-Joint Dislocation Using a Ligament Augmentation Device (LARS®)

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Aim of the study:
The early results in a consecutive patient series after operative reconstruction following acromioclavicular-joint (AC-joint) dislocations using anatomical ligament reconstruction and additional polyesterband-augmentation (LARS®) are presented. Indication and operative technique are described and discussed.

Material and Method:
For this prospective analysis 20 consecutive patients with acute AC-joint dislocations type Tossy III or Rockwood III-IV were included. Exclusion criteria were multiple trauma or positive history concerning the involved extremity. All procedures were performed by one surgeon (F.C.). In all cases the coracoclavicular ligaments and the superior acromioclavicular ligament were sutured or reinserted by transosseous sutures. The augmentation device (LARS®) was inserted around the base of the coracoid process and fixated with 2 titanium interference screws (5.2/15 mm), after drilling two oblique holes into the lateral clavicle (s. fig.1 and 2). Postoperatively there was no restriction to active ROM, except personal discomfort. Functional assessment was performed by Constant Score 2, 4, 6, 8, 12, and 24 weeks postoperatively as well as plane x-ray (s. fig.3)

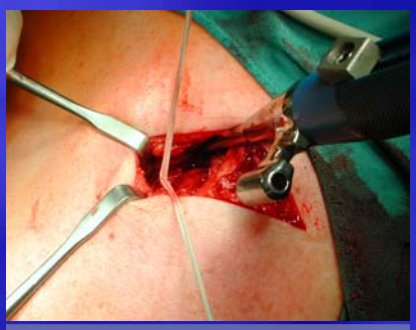

Fig1: Placement of LARS® ligament with special jig

Fig2: Suture of the coracoclavicular ligaments

Fig3: Postoperative X-ray

Results:
On average the full range of motion compared with the contralateral extremity was reached after 6 weeks. The Constant Score at this time was 86.7 pts. At the one year follow-up there was no deterioration in the functional outcome. Radiologically in 3 cases a secondary loosening of the joint could be observed (less than 5 mm in each case) without any influence on the functional result.

Discussion:
The therapeutical consequences after AC-joint dislocations Tossy III are controversially discussed in the literature[2, 6, 9, 11-14]. If operative treatment is chosen, many different procedures exist like transarticular techniques, e.g. K-wires[1, 8], extrarticular implants, such as Bosworth screws[3,4], coracoclavicular loop wires or plate fixation[5,7,11]. However, rigid fixation techniques allow early mobilisation, but lead to restricted function due to their mechanical properties[10]. Therefore loop fixation techniques seem to be superior in early rehabilitation, as supported by our own data, and do not require a secondary operative procedure for implant removal.

Conclusion:
The use of an augmentation device (LARS®) in addition to ligament reconstruction after AC-joint separation seems to give satisfactory early functional results. This technique can be recommended regarding the possibility of early postoperative functional rehabilitation.

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