#1905 - Clinical Study / Free Papers

All Surgical Treatment Options For Therapy Resistant Calcifying Tendinitis Of The Shoulder Are Effective, But Is There A Difference In Effectiveness? A Three-Arm Randomized Clinical Trial.

Orthopaedics / Shoulder & Upper Arm / Joint Preserving Surgery & Soft-tissue Repair

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Background
Calcifying tendinitis of the shoulder (CT) is a common shoulder disease that often leads to pain and loss of function. In about 10% of the patients conserative treatment fails and surgery is needed. Several surgical treatment options are available. The first is to perform an arthroscopic subacromial decompression without debridement of the calcifications. The second surgical treatment option is an arthroscopic debridement of the calcifications. The third surgical treatment option is a combination of these treatment modalities. However, the most effective surgical treatment option has not been determined yet and is still a matter of dispute. A prospective RCT that compares these three treatment options for therapy resistant CT of the shoulder is lacking. The purpose of this study was to compare the three surgical treatment options for patients with conservative therapy resistant calcifying tendinitis of the shoulder regarding pain relief and functional outcome six months after surgical treatment.

Objectives
To assess and compare the effectiveness of the surgical treatment options for conservative therapy resistant calcifying tendinitis of the shoulder.

Study Design & Methods
Between September 2015 and June 2020 a multicenter three-arm randomized clinical trial was conducted. Seventy-seven patients were randomly assigned to either arthroscopic subacromial decompression without debridement of the calcifications (Group SAD), debridement of the calcifications (Group D) or an arthroscopic subacromial decompression with debridement of the calcifications (Group D+SAD). Sixty-nine patients received the allocated treatment. Selection criteria were unsuccessful conservative therapy for at least six months, full range of motion, Gartner type I or II calcifications (>5millimetres). The primary outcome was improvement on the visual analog scale (VAS) for pain six months after treatment. Secondary outcomes were improvement in VAS after six weeks and Constant-Murley Score (CMS), Disability of Arm, Shoulder and Hand score (DASH), American Shoulder and Elbow Surgeons score (ASES) and radiological outcome six weeks and six months after treatment.

Results
The overall follow-up rate after six months was 89.9% (n=62). The primary outcome (VAS for pain) did not differ significantly between the three groups. All patient groups showed significant pain relief (reduction VAS, $p<0.0001$) at six months follow-up. The decrease in VAS for pain six weeks after treatment was significantly more ($p=0.03$) in Group D+SAD (33.1mm; SD, 19.7mm) compared to

Group SAD (16.5mm; SD, 19.3mm). Furthermore, the decrease in DASH in group D+SAD (30.6; SD, 17.8) was significantly more (p=0.02) as compared to group SAD (11.6; SD 24.3). All other secondary outcomes showed no statistically significant differences between groups. Patients in group SAD received more side treatments compared to group D and group D+SAD: 9 versus 4 versus 1, respectively.

Conclusions

Patients who had a subacromial decompression without debridement of the calcifications showed inferior reduction of pain and more disabilities after six weeks. At final follow-up those patients received more side treatments to achieve the same degree of pain relief and functional outcome as patients in which the calcifications were debrided. Therefore, we recommend debridement of the calcifications in patients with therapy resistant calcifying tendinitis of the shoulder and only perform an additional subacromial decompression in the presence of peroperative signs of subacromial impingement.