1-year Treatment Effects for Rotator Cuff Repair in a Single Center Registry

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Introduction

The treatment effect (TE) is a method to measure the outcome for each treatment as number with patient questionnaires. TE = complaint reduction/baseline complaints. 1 is the best outcome and corresponds to a patient without symptoms. A positive score means amelioration, 0 staying unchanged and a negative score worsening. In this study, the TE's for rotator cuff repair were calculated in a large single center registry.

Methods

Included were all consecutive patients with rotator cuff lesions appropriate for arthroscopic rotator cuff repair with an anchor. Excluded were those with large irreparable cuff lesions, revision, osteoarthritis, and/or polyarthritis. All patients had assessment with Quick Dash (3 questions for symptoms, 8 for impairments) preoperatively, after 3, 6 and 12 months. A physiotherapist measured abduction, external/internal rotation and abduction force (pre- and 6 months postoperatively, also on the contralateral side).

All patients had primary rotator cuff repair in one clinic by one of two experienced shoulder surgeons and identical follow up treatment.

The treatment effects (TE) were calculated using the Quick Dash score normalized from 0 to 100. The TE's were divided in five qualitative outcome categories. Complete reduction after intervention: TE >0.95, >50% complaints reduced: TE >0.5 to 0.95, <50% reduced TE >0.2 to 0.5. Unchanged TE 0.2 to -0.2 and worse (more complaints >MCID) <-0.2.

Results

From 01/2011 to 12/2018, 621 patients had rotator cuff repair and complete data. Thereof were 254 women (41 %), the average age was 61.3 years (from 23 years to 84 years), and comorbidities (measured in ASA scores) were 26% ASA 1, 61% ASA 2, 13% ASA 3, no ASA 4.

The mean Quick Dash score reduced significantly from mean 42.28 (SD 17.8) preop to 8.9 points 12 months postop (SD 12.2) ($p<0.001$). The TE's ranged from 1 to -2.31 (mean 0.77; SD 0.44). The five outcome categories were: 37% with complete reduction, 49% with reduction>50%, 8% with reduction<50%, 4% unchanged and 2% worse.

575 patients (= 94%) responded to treatment.

Mean range of abduction ameliorated from 118.0 (SD 41.1) to 149.8 (SD 15.5) degrees and mean abduction force augmented from 2.15 (SD 2.1) to 3.13 kg (SD 1.7); both significant ($p<0.05$).

Conclusions

Outcome for rotator cuff repair can be measured as treatment effects with a patient questionnaire. 94% of the patients responded to treatment and had a reduction of symptoms. The mean abduction and abduction force ameliorated significantly 6 months postoperatively. However, 6% of the patients had no or even a negative treatment effect.