



The Journal of Bone & Joint Surgery

Journal club: 17 July 2012

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Long-term follow-up of cases of rotator cuff tear treated conservatively

Kijima et al. *J Shoulder Elbow Surg* (2012) 21, 491-494.

Summary

Purpose

To clarify the role of conservative management for rotator cuff tears and assess the long term outcome of such patients.

Methods

The study design was a prospective cohort study. Consecutive patients were recruited into the study between 1996 and 1999. Patients had a diagnosis of a rotator cuff tear confirmed on either MRI or arthrography. All the patients were planned to be managed conservatively. Informed consent was obtained and patients were told that at any stage they could choose to undergo surgery if it was so desired.

A conservative regime of treatment was instituted in all cases which comprised of injections with either Hyaluronic acid, dexamethasone, or 1% mepivacaine. Systemic medications were also given in the form of NSAIDs, muscle relaxants, hypnotics, suppositories, and anxiolytics. Physiotherapy rehabilitation was also undertaken.

Patients were contacted by telephone at a single end point and their outcome was assessed using the Japanese Orthopaedic Society Shoulder score sections for pain and ADLs. The JOSS score for pain was scored out of 30 and for ADLs out of 10. A maximum score was 40, being no pain and no loss of function.

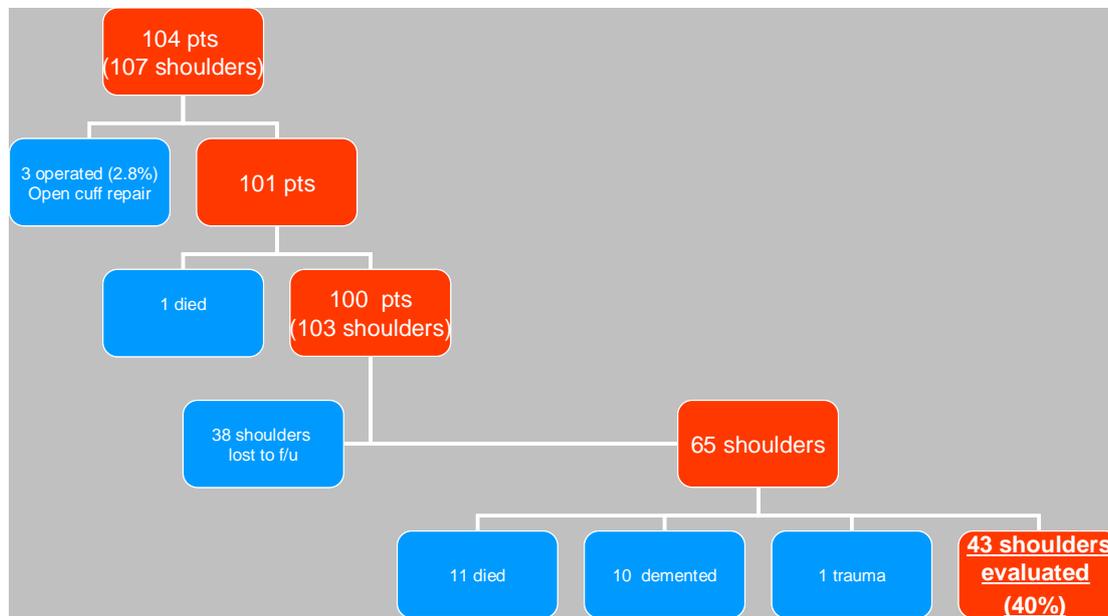
Statistical analysis was used in the form of a t-test to compare age and a Chi squared test to compare groups by gender and laterality.

Results

There were 107 shoulders in 104 patients in the study. 3 shoulders were operated on following a failed 6 months of conservative treatment. This was in the form of an open cuff repair. 1 further patient died leaving a remaining 100 shoulders. Further follow up was not possible on several patients (see fig 1.) This left 43 shoulders for evaluation (30 male and 13 female),

equating to 40% follow up. Mean age at diagnosis was 62 years (41-77). Mean follow up was 12 years and 11 months (141 -182 months).

Fig1. Flow diagram of patients included.



The mean overall JOSS score was 34.8 out of a possible 40. There was no shoulder with strong pain limiting ADLs or night pain. Underachieving shoulders were those with a JOSS score of 20 or less and were found to be significantly younger at time of diagnosis (54 vs 64), but there was no difference in gender or laterality in this group.

Discussion

The authors conclude that in this series 88% of shoulders had no or slight pain only and 72% had no disturbance in ADLs at just less than 13 years mean follow up. They state that to their knowledge there are no other long term studies that look at the outcome of conservatively managed cuff tears in a consecutive series (i.e. with the elimination of selection bias). The authors admit that there are some limitations to their study with no information on factors such as range of movement, muscular strength, or cuff tear size at the times of the first and last investigations. They also admit a bias to follow-up of the younger patients due to the older patient being lost to follow-up due to death or dementia.

Critique

- The purpose of the study was to examine the natural history of conservatively managed rotator cuff tears with minimal selection bias

Strengths

- Study Design
 - Consecutive case series reduces selection bias

- Patients and inclusion criteria
 - MRI or arthrography to diagnose cuff tear
 - Informed Consent was taken and patients were informed that at any stage they could opt to have surgery.
- Validated outcome measure
 - Japanese Orthopaedic Association shoulder scoring system
- Length of Follow up

Methodological concerns

- Study Design
 - Consecutive series, but only 104 patients collected in 3 years
- Patients
 - Demographic data lacking. No information regarding hand dominance, occupation, functional demand or co-morbidities
 - No information given on size of tear, or chronicity of tear.
 - No information regarding pre operative range of motion or strength
- Limited information given on the conservative management regime.
 - Length of treatment
 - Standardisation of regime between patients
 - Number of patients requiring recurrent episodes of conservative treatment
- Surgery
 - Only 3 (2.8%) were operated on, all had open cuff repair. No information regarding outcome of these patients.
- Outcome measures
 - Japanese Orthopaedic Association shoulder scoring system, performed over the phone, ?validity
 - Post treatment snap-shot only, no pre-intervention score
 - Pain and ADL sections of the score only
 - Underachiever group: few details given regarding this, how many patients were underachievers?
- Follow up
 - Significant drop out rate (the authors quote a 63% follow up rate.....but actually after all the excluded patients, the follow up rate was only 40%)

Overall Conclusion

This study certainly provides food for thought regarding the natural history of conservative management in rotator cuff tears. It is certainly useful to have an idea regarding this when considering intervention.

However we have a number of concerns regarding the methodology as outlined above. With a lack of baseline demographics and significant drop out rate it is difficult to say whether the results are applicable to our own patient population.

We therefore cannot conclude from this study that conservative management of rotator cuff tears will yield such results in our patients.