The Journal of Bone & Joint Surgery

Journal club: 28 February 2012
Attendees: L Funk, M Sabo, T McBride, A McMurtrie, M Nixon, M Walton, K Swamy
Reviewer: M Sabo
Wrightington Upper Limb Unit Journal Club
Wrightington Hospital, Hall Lane, Appley Bridge, United Kingdom

Patient acceptance of long head of biceps brachii tenotomy.
Duff SJ, Campbell PT.
J Shoulder Elbow Surg. 2012;21:61-65.

Summary

Purpose
To determine rates of complication and their impact on the patients' quality of life. The authors specifically assessed for deformity, cramping, and diminished strength in both manual/active patients and older sedentary patients.

Methods
The study design was a clinical review of patients who had previously undergone biceps tenotomy alone or as part of a larger shoulder surgical intervention. The minimum time since surgery was 12 months. The decision to tenotomize was based on MRI and/or intra-operative findings that were clearly described in this paper. A total of 117 patients with 127 shoulders were available for follow-up. The only reason for refusal to participate related to prohibitive travel distances. The clinical assessment consisted of an interview, a visual assessment of the arm by a physiotherapist, and objective measurement of strength using an IsoBex. Statistical assessment was conducted using non-parametric and parametric tests. Measured strengths were normalized using a series of correction factors.

Results
The two patient groups were different with respect to mean age, percentage of males, and prevalence of dominant arms operated on. Only 1 patient had an isolated tenotomy. For deformity, 27% subjective deformity and 57% objective (3% of total sample had distress from this). For cramping, 19% reported cramping, with 11% having moderate or severe cramping. For weakness, 31% reported subjective weakness (16% moderate or severe), while objective strength testing failed to reveal any difference between the operative and non-operative arms. The manual group reported less weakness than the sedentary group.

Conclusions
The authors concluded that biceps tenotomy is well-tolerated by their sample group. They felt that the complications reported caused little concern to their patients as reflected by a 97%

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satisfaction rate. They also conclude that tenotomy is appropriate in younger, more active patients as well.

Critique

This is a paper that set out to quantify potential difficulties faced by patients after biceps tenotomy: deformity, cramping, and weakness. Biceps tenotomy is a technically easier procedure and avoids added equipment costs, which makes this an important clinical question.

Strengths

- Inclusion was comprehensive. The indications for performing a tenotomy were also clearly defined.
- Sample demographics reflect the population affected by this condition.
- Use of objective strength testing equipment.

Methodological Concerns

- Reporting of the number of patients in the results was not accurate: there were 127 shoulders, not 127 patients.
- This is a retrospective study with no pre-operative data to compare with.
- There didn't seem to be much difference in age between the older/sedentary group and the younger/manually active group. Also, knowing the occupations that were considered active versus sedentary would be helpful.
- There is no control group or reflection of biceps tenodesis outcomes from this center.
- Lack of isolated tenotomy patients makes it quite difficult to ascertain the specific effect of the biceps pathology and treatment.

Overall, this paper does provide helpful information about the results of biceps tenotomy in patients. The results are weakened by several methodological concerns, but they suggest that a surgeon is not obligated to undertake a biceps tenodesis in manually active patients and that patient perception of weakness is not always objectively observed.