Author's response to reviews

Title: Open subpectoral biceps tenodesis in patients over 65 does not result in an increased rate of complications

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Comments

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Open subpectoral biceps tenodesis in patients over 65 does not result in an increased rate of complications

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BMC Musculoskeletal Disorders

Dear Umile Giuseppe Longo and Reviewers,
The authors wish to thank you for your time and effort in evaluating our manuscript for potential publication. We have attempted to address each of the concerns mentioned point-by-point below and hope that they are adequate in this regard.

Thank you in advance for taking the time to review our paper.

Sincerely,

Andreas Voss & Augustus Mazzocca

Reviewer reports:

Davide Susta (Reviewer 1):

Reviewer 1:

1. It would be useful to add to the 'Introduction' more information about the reasons for a patient to select tenodesis instead of tenotomy (is there any advantage in relation to movement control? any improvement in strength? any functional, objectively measurable outcome favouring tenodesis?)

Comment:

We agree with the reviewer comments and a paragraph has been added to introduction.

Therefore, biceps tenodesis is a common and well accepted procedure. The main purpose is to restore the physiological shape of the upper limp and to avoid postoperative cramping of the biceps muscle, as a known symptom after tenotomy. According to Giphart et al.5 there is no significant difference in motion after a tenotomy compared to intact biceps tendon.

Reviewer 1:

2. The number of participants was 380 at recruitment, but in the result section the number of patients is 337, what were the exclusion criteria to justify including only 337 (314 vs 22) out of 380? Please explain in text.

Comment:

The initial cohort (n.380) included all subpectoral tenodeses performed from 2005 to 2015. Patients who had a tenodesis in combination with an arthroplasty, or a resurfacing procedure, or a revision procedures were excluded to have a more homogeneous population (see lines 97-99)
Shital Parikh (Reviewer 2)

Reviewer 2:

1. line 106-108: contraindications for tenodesis are listed. how were obesity and osteoporosis defined. what was the approach in patients who could not undergo subpectoral tenodesis due to presence of contraindication

Comment:

A paragraph has been added to the manuscript:

Obesity was defined according to the WHO (BMI ≥ 30). Patients who presented with documented back pain, caused by a fractured or collapsed vertebra, loss of height over time, a bone fracture from standing height or a diagnosed osteoporosis through bone mineral density measurements were not eligible for subpectoral biceps tenodesis.

Reviewer 2:

line 135-136: are these complications tenodesis related?

Comment:

The two complications: biceps tendinitis and LHB rupture were considered related to the tenodesis itself

Reviewer 2:

2. line 146-147: I would recommend a table for tenodesis related complications in both group, how were complications treated and did they resolve or require further surgery? since this is a complication related paper, readers would benefit from reading more about tenodesis-related complications and its management.

Comment:

We agree with the reviewer’s comment. A table of complications has been added to the manuscript (Table 2). Due to the retrospective design of this study, not every complication was handled in our department (e.g. fractures were brought to the nearest emergency department). Therefore, this list would be incomplete and was not included in the table.
3. in the control group, 38 patients had persistent pain and 12 had various complications. the authors exclude these complications when comparing complication rate. authors need to explain why none of these could be tenodesis related?

Comment:

We agree with the reviewer’s comment. We assumed all these complications were not the consequence of the tenodesis, because they were not typically located at the tenodesis site and were more related to the primary intervention (e.g. cuff repair) with variable location of the shoulder. Regarding post traumatic fractures, we could not find an association with the screw location.

Reviewer 2:

4. lines 172-173: are the authors discussing morbidity from tenotomy or tenodesis

Comment:

Lines 172-174 these are data from the literature regarding the complications of the tenodesis in old patients

Reviewer 2:

5. lines 230-232: delete these lines. the authors cannot conclude from current study that tenodesis is better than other forms of treatment / tenotomy. they can only comment that tenodesis has an acceptable complication rate and functional results in >65. So it is an alternative.

Comment:

The lines have been deleted accordingly.

Reviewer 2:

6. having a single surgeon is a strength but has the technique changed over years? Readers would benefit from a brief description of surgical technique, implant used for fixation and rehabilitation, in ‘methods’ section.

Comment:

A paragraph has been added to the material and methods section:

Surgical technique
After arthroscopic tenotomy of the LHBT, the skin incision is followed by a safe blunt dissection of the pectoralis major tendon until the bicipital groove and the long head of the biceps tendon are exposed. The LHBT is then stitched starting 2 cm from the musculotendinous junction for 2 cm. A guide pin is used to drill a unicortical hole in the ventral aspect of the cortex within the bicipital groove, followed by an 8-mm unicortical reamer. After unicortical drilling an 8-mm tap is used to prepare the cortex. One of the stitches end is then loaded through the biceps tenodesis screwdriver, the other end is left free. An 8-mm screw is deployed along with the tendon into the previously drilled 8 mm hole till the screw is flush with the humeral cortex. The two ends of the suture are then tied over the screw securing the screw in place.

Reviewer 2:

7. how much time does tenodesis add to surgery? do the authors use fluoroscopy during tenodesis?

Comment:

The procedure adds approximately 15 minutes to the surgery. We do not use fluoroscopy.

Patrick Pabian (Reviewer 3):

Reviewer 3:

In addition, some dialogue on rationale for higher complication rates compared to other studies could add benefit to the manuscript.

Comment:

A paragraph has been added to discussion section:

The reasonable for his difference might be multifarious and related the accompanied primary surgical rotator cuff repair. Therefore, a greater degree of tendon retraction, the surgical reconstruction of massive cuff tears compared to single tendon ruptures or the general morbidity of the population presented in our department might influence the rate.