Reviewer's report

Title: Relationship between chronic pathologies of the supraspinatus tendon and the long head of the biceps tendon: Review of the literature.

Version: 1  Date: 23 February 2014

Reviewer: Carla Vanti

Reviewer's report:

Major Compulsory Revision

Background
Overall this section could be more efficiently written and better focused on the actual study.

The aims of this study appear quite confuse. First, the author state “to find scientific evidence on the existing anatomical and functional relationship between LHBT and supraspinatus tendon pathologies”: so, this study appears as a pathoanatomical study, based on cadaveric or surgical specimens. The authors also state “to determine the procedures used to diagnose tendon injuries …”: so, this study appears as a diagnostic accuracy study. Finally, the authors state “to identify the characteristics of the study subjects who present alterations in the supraspinatus tendon and LHBT”: so, this study appears quite a clinical prediction rule study.

In my view a different aim also emerges from the text, “to find the prevalence of the associated LHBT and supraspinatus tendon pathologies in chronic shoulder pain”. In fact, neither the results nor the discussion sections are well focused on the anatomical and functional relationship, but rather on the pathoanatomical lesions and the prevalence of the combined lesions of two tendons in different samples (subjects who undergone a previous arthroscopy, subjects suffering from RC tendinopathy, and so on).

Methods
The authors included also case studies, which are not appropriate for the aims of this article.

The authors refer to “chronic” pathologies, a very specific subgroup, different from what stated in Background section.

Concerning the medical diagnosis, the authors include studies employing both clinical and imaging diagnoses, but it is not clear which golden standard is considered for the diagnosis of tendon pathology.

A major flaw is that there is no consideration of some relevant characteristics of the included studies, as the sample size, the age of the included subjects, the staging of the pain (acute/chronic), and the severity of the tendon lesions.

Results
The authors refer to studies on rotator cuff lesions, without a clear specification about the supraspinatus lesions. As a consequence, also studies on other muscles might be included.

The “variable” paragraph is quite confused, because it includes a mix of different measures.

The results may be affected by a methodological flaw: when authors consider the percentage of double lesions (supraspinatus and LHBT), they do not discuss about the characteristics of the samples. In fact, the percentage of double lesions significantly varies from the different samples.

Discussion
The discussion might change after the methods are improved. However in a revised manuscript, the authors would again focus their discussion on the study and ensure they are making logical comparisons. The methodological quality of the studies would be assessed, after having included only studies with similar design.

On the light of the previous comments, the limitation section would be expanded.

Conclusion
A conclusion would include also some suggestions for the clinical practice and for future studies.

Overall, I would suggest that the paper be reworked.

Minor Essential Revisions
The paragraphs would be better organized (e.g. some paragraphs contain only one statement).

Sometimes the authors cite indirect references, especially when they refer to epidemiological data.

The authors do not state when the literature search was carried out and who performed it (one or more researchers? blinded or not?).

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests