Reviewer’s report

Title: Anterior cruciate ligament reconstruction with quadriceps tendon-patellar bone allograft: matched case control study

Version: 0 Date: 11 Oct 2017

Reviewer: Alberto Grassi

Reviewer’s report:

This is an interesting manuscript regarding the use of quadriceps tendon allograft for primary ACL reconstruction.

The authors claim this is the first study using this graft, and to my knowledge this statement is confirmed, therefore i believe this study worth for publication.

However, I have some concerns that should be addressed to allow publication.

TITLE: ok

ABSTRACT: Ok

INTRODUCTION: is good, not too long and focused

MAT AND METH: the study design is not immediatly clear. Please start reporting that this is a retrospective study.

Moreover, a flow chart of patient inclusion is needed.

Report clearly inclusion and exclusion criteria, and how many patients were excluded based on each criteria. You should report the total number of ACL performed, independetly from the graft.

Patients lost to follow-up is not an exclusion criteria. The number of lost to follow-up should be incluced in the "case serie" and that accounted in the "dropout rate"

One my biggest concerns is the process of graft choice. Since it is not a randomized study, how you discussed graft with patients? Since QT allograft has never been used, did how you suggested this to patients? Moreover, which is your first-choice graft?

page 4 line 14: "screened" instead of "included"

page 4 line 37: When quadriceps tests were performed?
page 4 line 49: add ethical committee approval number

page 4 line 52: move the power analysis in the statistical subsection. The power analysis is moreover incomplete: which is your primary outcome in which the sample size is based?

page 5 line 17: what does it mean "excised"? Is the bone block maintained attached to graft or not?

I would suggest you to add a foto of the prepared grafts (autograft and allograft)

page 6 line 1: which is the screws size?

page 5 lines 13-33: please rephrase more schematically the rehab protocol because it is not clear.

RESULTS: Please start reporting the follow up.

page 7 line 8: this study has not a 2 years follow-up. it is more, therefore correct with "at final follow-up"

Please add the number of patients stratified according to KT values (<3 mm, 3-5 mm >5 mm)
An important issue, is that according to the LACHman score you have 1 patients per group graded as II. According to most of criteria (see Crawford et al arthroscopy, and grassi et al CORR 2017) these should be considered failures.

What about ROM? you had arthrofibrosis of ROM loss?

DISCUSSION: ok, just few corrections

page 8 line 8: the power recovery was not "much better". Please rephrase in less enthuastic form

page 8 lines 18-20: delete since you aready repeated this sentence before

Please compare your data with other studies using quad autograft

Discuss your failures

My biggest concern is the indications and clinical relevance: in which case you suggest this allograft? according most of big series and meta analysis and registries, allograft should be second-line choice in primary ACL. Probably revision would be an appealing situation to use (see Grassi et al BJJ 2017 meta analysis).

Moreover, limitations of this study are noticeables and shluld be discussed:

- lack of randomization (selection bias)
- lack of MRI evaluation (signal intensity and graft maturation. this is important lack, since you dont know the behaviour of the graft intra articularly, since this is the first time used. are you sure undergoes ligamentization similarly to other grafts?)

Most important: sincethis is short term, you should insist in the fact that this is a preliminari short term FU, and further study are needed to confirm the efficacy, since 2 years are few to see failures (please discuss this and report allograft in general failure rates -see maletis registry-)

Conclusions: ok

REFERENCES: update with the above ref.

TABLES: use the median and InterQuartile Ranges for Tegner, and not the mean

How you calcualte KOOS? to my knowledge it is a 0-100 scale, with 6 subscales. Please exolain in the methods, or correct.

I suggest to report the values of Qol, Sport, Pain, daily Activity, stiffness, symptoms subscales.

FIGURE: add frafts photos, as suggested above

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

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