Reviewer's report

Title: Closing-wedge high tibial osteotomy: survival and risk factor analysis at long-term follow up

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Reviewer: Russell Bear

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I would like to compliment the authors of the above manuscript on the beginnings of a good article. They present a large cohort of subjects who have undergone an orthopaedic procedure which has been gaining much needed attention. High tibial osteotomy has a growing role as an alternative treatment for young middle-aged adults with localized osteoarthritis of the knee. With the population living longer and maintaining an active, athletic lifestyle, joint-preserving procedures are needed in order to reduce the overall rate of early total knee arthroplasty which will also reduce the rate of early revision total knee arthroplasty. The authors present data to further promote the use of high tibial osteotomy which will help to accomplish this goal. With that said, there are several issues currently holding this article back from its full potential.

Major Compulsory Revision
1. First, and foremost, there are many grammatical errors throughout the paper. This can probably be attributed to the article originally being written in German then translated into English for review. Be that as it may, the whole article needs a thorough proofreading prior to publication. Two examples of this are immediately found in the Background section. In the first sentence, “…high tibial osteotomy (HTO) has become an accepted procedure…” should read, “…high tibial osteotomy (HTO) is an accepted procedure…” The second to last sentence where the authors try to state the aim, or purpose, of the study does not make sense when compared to the overall read of the paper. Is the paper about failure rates or survival rates of HTO?

Minor Essential Revisions
2. Maintain consistency in reporting throughout the paper. In the Abstract the mean follow up time is reported to be 9.6 years however, in the body of the manuscript the Methods section reports mean follow up to be 10 years. Which one is it?

3. Consider removing the text referring to 15-year survival rate in the Results section. Given that the mean follow up of this cohort is 10 years, the addition of this data clouds the conclusions the authors are trying to reach. Or, preferably, expand upon this by providing more data. Specifically, provide the numbers of patients who had a mean 15 year follow up. Lastly, consider expanding upon what exactly is meant by “survival rate”. To some survival may mean how long a patient reports a good to excellent clinical result over conversion to another
procedure.

4. The strengths and weaknesses of this study are not clearly discussed at the end of the manuscript. The authors mention they feel the patients they could not report on due to loss to follow up was a weakness. Though that is true, they still had 83% of their cohort to report on which is better than many articles which have been published in “higher tier” journals. This is an obvious strength of their study and should be emphasized. There are other weaknesses such as this being a retrospective study and there being no control group to compare to which can be discussed.

5. Again, the Discussion section is fraught with grammatical errors which need to be addressed as the strengths and weaknesses are further delineated.

Discretionary Revisions

6. If it is possible, it would further strengthen this article if there were a cohort of medial opening-wedge HTOs or unicompartmental knee arthroplasty patients to compare to. This is not a requirement but could further strengthen the case for more surgeons to utilize a lateral closing wedge HTO for medial gonarthrosis of the knee. Also, if there is arthroscopic data on the condition of the articular cartilage at the time of surgery and, whether the grade of articular cartilage wear correlated with survival or patient outcome.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

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

Declaration of competing interests:

I have no competing interests