Reviewer's report

Title: Total knee Arthroplasty: Risk factors for allogeneic blood transfusions in the South Asian population

Version: 0 Date: 22 May 2017

Reviewer: Gustavo Almeida

Reviewer's report:

The manuscript describes a study that investigated risk factors for blood transfusions during/after total knee replacement (TKR) surgery in the South Asian population. Although the information is important, it is nothing new. As stated in the background and later on in the discussion section, several studies have done it. So, this reviewer was wondering why would risk factors for blood transfusions in TKR done in South Asians be different. The authors failed to support and defend the significance of their study.

What characteristics do South Asians have that would preclude them from having the same risk factors from other populations studied before? Are their health habits different? Something in their genes? etc... Just because there is nothing published on this specific population, it does not mean that there is a gap in the literature or that the study is needed.

The authors could certainly use the risk factors previously identified, unless they state what is particular about South Asians that would result in identifying different risk factors.

Furthermore, as per the discussion section in this manuscript, most of the risk factors previously identified were confirmed in the current study. Therefore, it seems to me that there is nothing new.

TITLE
Concise and descriptive.

ABSTRACT
Structured and concise.

Please spell out ASA and BMI.
INTRODUCTION
Does not support the need for the study nor states its significance.
Page 3 (line 29): spell out ASA and BMI.
Page 3 (line 32): "increased risk of blood transfusions" in TKR? Needs clarification.
Page 3 (line 34): How do South Asians differ from the rest of the population? What's so different in their genes or health that would increase the risk for blood transfusion in comparison to the rest of the world? Needs significance of the study here.

MATERIALS AND METHODS
-Page 4 (line 30): Please clarify "multiple procedures" - bilateral TKA is considered a multiple procedure and those patients were included in the study.
-the term "comorbids" was used throughout the text. Although it is a word, it is not a nomenclature commonly used. Please replace it with co-morbidities.
-Page 5 (line 58): obesity is usually part of the co-morbidities. Why was it treated in separate? Needs revision.

RESULTS
The authors keep going back and forth with the terms TKA and TKR throughout the text. Be consistent: TKA or TKR? Pick one.
-Page 6 (line 30): Why interestingly? People with osteoarthritis after a TKR are usually obese.
-Page 6 (lines 37-38): enter percentage after TKR so the reader has an idea of the difference between number of bilateral and unilateral TKAs.
-Pages 7-8: This reviewer suggests that tables 1 and 2 be combined. Table 1 should describe all the participants' characteristics, all together: continuous and dichotomous variables.
-Page 7: Table 1 - standard deviations are missing for BMI, Operative Duration, Estimated Blood Loss and Length of Stay.
-Page 8: Table 2 - to make it concise report: just one gender, describe the most common co-morbidities in the text rather than in the table... pick 3 (keep the number of co-morbidities in the table), and transfusions (report received only).
-Page 10: Table 3 - Specify whether univariate or multivariate in the odds ration columns.
DISCUSSION
First paragraph of your discussion should be the most relevant findings of your study.
It seems that your results concur with a lot of other studies. There is a number of studies in the
literature. So, it is not clear what the relevance to test risk factors for blood transfusion in South
Asians is.
-Page 11 (line 25): again... be consistent: total knee replacement OR total knee arthroplasty?
Pick one.
-Page 11 (line 46): is Red Blood cell transfusion the same as allogeneic? If so, try to use one
term only so the reader does not get confused.
-Page 12 (lines 11-22): This should be the first paragraph of the discussion with the addition of
the relevance of your findings.
-Page 12 (line 31): "that" is duplicated. Please erase one.
-Page 12 (lines 38-49): This sentence is confusing: "for those undergoing this procedure
overcome this advantage"... what procedure? what advantage?
-Page 14 (lines 1-3): this justification does not make sense: in this paragraph the authors talk
about lower BMI being a factor but then they justify it referencing to obese individuals.
-Page 14 (line 3): spell out EBL
-Page 15 (line 3): Caveats - The intricacies that make this population differ from the rest of the
world should be discussed here.
What did your study find in regards to patients' characteristics that is different from what is in the
literature already? What should be done next?
This reviewer does not agree with the statement "Greater sensitivity and specificity can be
achieved through prospective cohort studies as well" since sensitivity and specificity were not
part of the analysis in the current study.

CONCLUSIONS
-Page 16: Should conclude with the significant o the findings rather than repeating the results.
-Page 16 (line 24): should read - "the need for blood transfusions in" South Asian patients
undergoing TKA.
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.
Unable to assess

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 am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:
Needs some language corrections before being published

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

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