Reviewer’s report

Title: Incidence and risk factors of Retinopathy of Prematurity in three neonatal intensive care units in Palestine

Version: 1 Date: 27 May 2019

Reviewer: S. Grace Prakalapakorn

Reviewer's report:

Title: Incidence and risk factors of Retinopathy of Prematurity in three neonatal intensive care units in Palestine

Purpose:
To investigate the incidence of retinopathy of prematurity and its association with some risk factors in Palestine.

Summary: This was a retrospective study of 115 infants screened over 1 year for ROP in 3 NICUs. The authors report the incidence of ROP in their cohort and uni- and multi-variate analysis of risk factors associated with the development of ROP.

Abstract:
-(line 4): The wording has improved, but would add the word "can" in front of "affect", so the sentence would say, "Severe retinopathy of prematurity (ROP) is a serious vasoproliferative disorder that can affect …" … because most (~90%) ROP is mild.
-(lines 5-6): abbreviate "retinopathy of prematurity"
-(lines 10-11): can delete the last sentence about SPSS to save word count
-(lines 12-17): When controlled for other factors, only GA, max bilirubin level and total days on oxygen supplementation were risk factors for developing ROP - please add that to the results. If the authors want to leave in the other univariate risk factors they found significant, specify they were univariate risk factors.

Background:
-(lines 5-6): would delete the sentence about the US- this is not a study about the US.
-(lines 7-8): Same comments as abstract above: (1) abbreviate "retinopathy of prematurity" and (2) add the word "can" in front of "affect", so the sentence would say, "Severe retinopathy of prematurity (ROP) is a serious vasoproliferative disorder that can affect …" … because most (~90%) ROP is mild.
-(second paragraph): I would suggest adding a sentence listing all the known risk factors for ROP after line 11 and reference them appropriately.
-(line 12): Would reword this sentence - which countries are you referring to? Not in all countries is there a "considerable" risk of ROP. Or consider saying there is "variable" risk of ROP in different countries.
-(lines 17-18): As requested in the previous version, please remove this last sentence and just state the
The purpose of this study was to ….

Methods:
-(page 4, lines 5-7) were there guidelines on when the NICU was supposed to call the specialist to examine the baby? How did they decide to call at 4, 5 or 6 weeks - is there a guideline they follow?
-(page 4, lines 14-15): Did the guidelines referenced #21 give follow up time frames for different findings including no ROP, if so and those guidelines were used for those "if no signs of ROP were detected" ... then delete this last sentence
-(page 4, line 19): would remove "A total number of 115 files" - this is a result and not methods … Consider, "We included infants who were examined from ...."
-(page 5, line 4): define "residency"
-(page 5, under Statistical analysis): There is no mention here of multivariate analysis being performed - needs to be added and how a most parsimonious model was created
-(pages 5-6): Is an "ethical consideration" section required? If not, would remove, it is essentially the same thing as the first few sentences of the methods (page 3)

Results:
-(page 7, Neonatal characteristics): need to explain what the average +/- refers to, e.g. average and standard deviation, etc.
- Are the authors able to add how many (and percentage) that developed severe (type 1) ROP that qualified for treatment?

Table 1:
-Please edit the title of the table to be more descriptive - e.g Demographic features of who? Study participants, etc …
-Here the authors list the categories "Gaza" and "west bank", but these categories are not mentioned elsewhere in the manuscript- authors need to explain to the reader how Palestine is geographically laid out and why these categories were chosen either in the methods or background section

Table 2:
-Please edit the title of the table to be more descriptive - e.g. Neonatal Characteristics and relation to developing ROP or something to that effect
-need to define HB below the table and remove "CS" - not listed in the table

-(Page 10, multivariate analysis): 12 variables are a lot to include in a model that only has 115 subjects - need to perform some sort of backwards or stepwise regression analysis to keep only significant risk factors in the final, most parsimonious model.

Discussion:
-(page 11, first paragraph): move reference to table 5 after the second sentence.

Table 6:
-Define ROP
-results from this study should also be included for comparison in the top row above Oman

-(page 11, line 13) - Why were guidelines from 2006 being used for a screening that happened in 2016? There are more recent guidelines (i.e. 2013) - please justify
-(page 12, line 4): please be explicit in what groups you are comparing - I assume the authors are
talking about GA in those without ROP, please state that
-(page 12, line 9) - The authors should have defined the AAP abbreviation on page 11, line 13 not here. Just define above and use the abbreviation here
-(page 12, lines 4-7): by "nearby" - do the authors mean in neighboring countries or similar human development indexes? Also would add these mean GA numbers to table 6
-(page 12): at the end of the paragraph, need to have a summary statement of why you are stating all these facts - are you saying the AAP/AAPOS guidelines were a good fit or not and why?
-(page 12): need some transition to when the authors move from discussing ROP incidence, to their second study purpose: looking at risk factors.
-(pages 12-14): When discussing risk factors, the authors need to be clear that some risk factors were only statistically significant in the univariate analysis, but when multivariate analysis was performed only GA, max bilirubin level and total days on oxygen supplementation were risk factors for developing ROP. This is very important and much weight should not be focused on factors that are only statistically significant in the univariate analysis. Think of organizing by discussing the univariate analysis first and then the results of the multivariate analysis - or can carry on the way it is currently organized, but be very clear what the univariate analysis was and what happened when the multivariate analysis was run and other variables in the model were controlled for.

Conclusion
-the conclusion should only focus on the multivariate (not univariate) results (i.e. when multivariate analysis was performed only GA, max bilirubin level and total days on oxygen supplementation were risk factors for developing ROP in this study cohort).

Since the last version, this revision is improved, but the analysis (specifically the multivariate analysis) and discussion need further work. If there is no other published literature on incidence of ROP in Palestine, this manuscript could add to the current literature.

**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.

No

**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:

Acceptable

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

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

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If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I have received previous grant funding related to ROP projects, but there is no conflict with the current manuscript.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.
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