Reviewer’s report

Title: Incidence of Retinopathy of Prematurity Type 1 and Type 2 in a Regional Hospital of Social Security in the State of Queretaro, Mexico (2017-2018)

Version: 1 Date: 11 Jan 2019

Reviewer: Clare Gilbert

Reviewer's report:

The authors are to be congratulated on publishing data from their very first screening experience.

However, the paper could be improved in several ways.

First, to make the data comparable with international studies, please present data according to the eye with the most advanced disease.

Second, please can you ask someone to review the paper for language and sentence construction which are poor in places.

Abstract

The results section of the abstract is extremely difficult to follow. Please present data as follows: immature retina 37.5%; mild ROP not reaching type I or type II 21.6%; Type 2 ROP 4.5%, type I ROP 27.3% and advanced disease 1.1%. It would be useful to present the mean birth weight and gestational age, and their ranges, of babies with Type 1 + advanced ROP as one group.

Data which are not presented in the manuscript is whether any of the babies with Type 1 or advanced ROP fell outside the Mexican screening criteria.

Introduction

ROP is only the main cause of blindness in children in some middle and lower middle income countries. Please use another reference for this.

Page 4 line 54: please remove the words "or unreliable" as this statement cannot be supported by what is said in the sentence.

Methods

Readers outside Mexico need to know a bit more about hospital where neonatal care unit was located. Is it a university teaching hospital? Is it in the government sector? Does the hospital also have an eye department? Presumably the neonatal intensive care unit is a level III unit i.e., with facilities to
ventilate babies? Please clarify.

Page 6 lines 33 to page 7 line 33: Details of the classification system are not required for this journal.

Congratulations on documenting the proportion of infants who did not complete screening (17%) as this is rarely reported. This should be commented upon in the discussion. Presumably a high proportion of these infants did not return for screening after they had been discharged from the neonatal unit?

Page 8. The following statement appears twice on page 8 "The eyes were subclassified, assigning themselves to the lowest area found in the assessments." I am not sure what this means.

More details are required on the statistical methods used.

Page 8. The following sentence is describing two separate points and should be two separate sentences with a full stop after Microsoft Excel. "The descriptive statistical analysis with measures of central tendency, and inferential by ANOVA test was done in Microsoft Excel®. In order to avoid potential registration errors that could affect the calculations made on the sample data, the consistency between the physical and electronic records was corroborated meticulously."

Results

Page 9 first paragraph: In addition to giving the mean values for birth weight and gestational age please also give the ranges.

Lines 34-44. Please rewrite to improve clarity, such as "Findings among infants who completed surveillance (264 eyes) were as follows: 8% had complete retinal vascularization (i.e., mature retinal vasculature) at first evaluation; 37.5% had immature vessels and did not develop any ROP; 21.6% had mild ROP (i.e., did not develop Type 1 or Type 2 ROP); 4.5% had type 2 ROP; 27.3% had Type 1 ROP and 1.1% developed Stage 4 or Stage 5 (Table 1).

Please clarify whether stage 4 or 5 developed after treatment, or whether this was detected before any treatment was given.

Page 9 lines 48-58 and Page 10 lines 14-21 and lines 25-33: Many of these findings are presented in table 2 and so they do not need to be repeated in the text. Please say something like: "Infants with mature retinal vasculature at first examination were larger (mean BW 2445 +/- 383 g) and more mature (mean 36 week and 3 days +/- 6) than those who developed ROP. Infants who developed type I ROP had the lowest birth weight (mean 1310 +/- 79g) and gestational age (mean 30 weeks 4 days +/- 3 days)(Table 2)."

You can then give the findings of the different comparisons, using just two groups: those who develop Type 1 or advanced ROP, and those who had no, mild, or Type 2 ROP. Statistical comparison of the birth weight and gestational age of these two groups of babies would be helpful.

Page 11 Lines 16-23: You are not presenting a risk factor study which would entail exposure to oxygen, sepsis failure to gain weight etc. It is not clear in the table what data of "birth weight and" gestational age" and "Other" refer to.

Can I suggest you present the findings as was done Vinekar at el , by plotting the birth weight against gestational age of all babies screened, using the two groups suggested above (i.e., Type 1 + advanced,
and all others). I have suggested these groupings as the purpose of screening is to find babies needing treatment, and this plot will show very clearly which babies are at risk in your setting, and whether any of those with type 1 ROP fall outside the Mexican screening criteria. https://www.google.co.uk/search?q=Vinekar+KIDROP&source=lnms&tbm=isch&sa=X&ved=0ahUKEwj_gtnKmebfAhVzXhUIHRBODNQQ_AUIDigB&biw=2275&bih=1170#imgrc=r-d-A7vUC7RghM:

Comments:

Where all the babies with type I ROP treated? If so please say so explaining how they were treated.

Did any of the babies develop aggressive posterior ROP? If not this would be surprising given the high rate of type I ROP.

Discussion

I suggest you reorder the discussion, starting with type I ROP.

Page 12 line 52: a comparison of your findings with those of Zepeda are only valid if the same screening criteria were used. Was this case?

A rate of 27.3% needing treatment is very high given the wide screening criteria. This implies that a lot needs to be done in this unit to improve the quality of neonatal care. For example, what are the policies for resuscitation of preterm infants? Is there enough equipment to safely deliver and monitor supplemental oxygen for all babies receiving this? Does the unit have high rates of sepsis?

The difference in findings between your study and those of Quinn and the Canadian studies almost certainly reflect a far higher mortality in very premature infants in your unit than is currently the case in the US and Canada. However, at the moment you do not present range of birth weights and gestational ages and it is not possible for the reader to see whether extremely preterm babies are surviving long enough to be examined.

Conclusions:

You should not comment on treatment in the conclusions without presenting any data.

Once you have plotted the data as suggested above, you may want to comment on the screening criteria being used in Mexico.

Tables and figures

The headings for the tables and figures could be simplified by removing the words "Distribution of eyes of the sample by" which are not required.

Table 4: Remove the word "ACTIVITY".

Table 5: It is not clear what data are being presented in the columns "BW and GA" and "Other" as this is not explained in the text (in any case, you already present data on BW and GA and this table could be removed).
Figure 1: A plot of two groups would be more informative and easier to interpret: Type 1 + advanced ROP as one group and Type 2 + mild ROP as the other.

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

No

**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.

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:

Not suitable for publication unless extensively edited

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