Reviewer's report

Title: Haemoglobin level at birth influences short term outcomes and mortality in preterm infants

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Reviewer: Robert Christensen

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Thank you for giving me the opportunity to read and comment on this interesting manuscript. Dr. Banergee has contributed many advances to the field of neonatal transfusion medicine and this submission is similarly relevant and clinically helpful. The submission is written clearly and the data are displayed in a logical and straight-forward manner. Perhaps the authors would attend to the relatively minor points below.

1. Title: The term “influences” is less accurate than a phrase such as “is associated with.”

2. Abstract: To avoid any initial confusion, perhaps when the word “haemoglobin” is first used, it should be made clear that the authors indicate “blood haemoglobin concentration (g/dL)” not haemoglobin type.

3. After reading the abstract, it was unclear whether this was a prospective study (suggested by the first line of the Methods) or was a retrospective data analysis (suggested from the first line of the Results section).

4. Background: Page 5, second paragraph, first line. One minor point here could lead to some confusion. Delayed clamping or milking increase the neonate’s blood volume, but does not instantaneously increase the hematocrit or blood hemoglobin concentration. Since the fetal blood transfused into the neonate by these maneuvers has the same hct/hgb as the blood already in the neonate, a higher hct/hgb begins to occur only after many minutes to hours. In this sentence and in other places in the manuscript, readers may get the erroneous impression that these increases are instantaneous.

5. Method: Page 9, first paragraph of the section, third to last line. The term “haemoglobin at birth” requires better definition. Page 7, line 11 states “within the first hour”. Details of this are important because hct/hgb can be measured either from cord blood or from the neonate’s blood after birth. If the latter, it can be measured from capillary puncture (typically heel), or vascular puncture, or from indwelling lines (UAC or UVC). The time (hours after birth) and anatomical location (particularly capillary vs vascular) will significantly influence the value (hct/hgb), and this is central to testing their hypothesis.

6. Discussion: The Hct/hgb during the first several hours after birth is influenced positively by delayed cord clamping or milking, but is influenced negatively by phlebotomy losses for early laboratory blood tests, or other forms of early blood loss. This latter issue is not mentioned in the discussion, but in some instances,
particularly in the smallest neonates, can be a highly relevant variable.

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

I declare that I have no competing interests