deterioration) in the first hour. From this study over the first hour, we were able to identify patients who improved with CPAP. We know from our observation during the period that infants who improved in the first hour were continued on CPAP and maintained the benefits. However, we did not collect study data beyond the first hour. Respiratory rate is variable but a reduction in respiratory rate is usually a good sign of improvement.

Regarding inter-observer variability in counting the respiratory rate, the counting of respiratory rate is a simple procedure and we did not consider inter-observer variability to be significant although we did not test for this. We do not consider video recording would have been useful.

PEEP and flow rates are crucial factors in bubble CPAP. We used flow rates between 6 L/min and 10 L/min, and PEEP of 6 cm of water to 8 cm of water depending on the baby's size and flow rates that were comfortable for the baby.

The median and IQR values (Bubble CPAP *vs* Standard care) in our study were as follows: Respiratory rate (8 (3.5, 12) *vs* 5 (2.3, 7.8); *P*=0.018), SA Score (1 (0, 1) *vs* 0 (0, 1); *P*=0.29) and MPSNZ-SS (2 (1, 3) *vs.* 1 (0, 2); *P*=0.012).

Regarding our use of Silverman-Andersen score and Modified Pediatric Society of New Zealand Severity Score to assess respiratory distress in bronchiolitis, they have been widely used to evaluate distress in infants.

We acknowledge we could have recorded anthropometric data for comparison between cases and controls in this randomized trial to demonstrate comparability between the groups, but this was not a part of the study protocol.

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Association *vs* Agreement: The Mystery Continues…

We read with interest the article by Pendse, *et al*. [1] regarding role of transcutaneous bilirubin measurement in preterm neonates. The study is yet another attempt to validate new era of sensor-based technology that is quick and non-invasive. However, we have few concerns:

1. The authors used a statement: "Bland-Altman analysis was used to 'visualize' the agreement between TSB and TCB." It appears that the authors have confused Association with Agreement. Correlation/regression or analysis of variance (t-test) are measures of association and not of agreement. An excellent association does not necessarily mean good agreement. Bland and Altman developed a simple statistical tool to measure agreement between two methods way back in 1986 [2]. However, the tool is often used inappropriately [3].

2. Authors also highlighted that 90% of the data points fall within 95% confidence interval. This is a statistical fact, and we cannot claim anything about agreement from this. As it is a kind of estimation problem, a larger sample size is advisable. Bland himself suggested minimum of 100 observations with justification [4]. A complicated regression analysis or a tool based on Structural Equation Modeling (SEM) [5] may be used to analyze method comparison studies but Bland-Altman method is popular due to its simplicity and ease of interpretation. The authors could have tested the reliability along with validity as they have three transcutaneous bilirubin observations.

We suggest the authors to continue the study with large sample (at least 100) and present the findings again with Bland-Altman analysis as primary (and only) analysis and interpretation based on the new findings.

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Timing of the Cord Clamping with Breathing

American College of Obstetrics and Gynecology currently recommends delayed cord clamping (at least 30-60 seconds after birth) in term and preterm infants [1] because of its reported benefits. A recent meta-analysis also showed improved mortality among the preterm infants with delayed cord clamping [2].

Physiologically, the timing of clamping should depend on whether the baby has established breathing. During fetal life, only 10% of the circulation is flowing through the lungs. However, soon after birth, it should increase to 50% not just to fill the expanding lungs but to become the only source of preload to the left ventricle through the pulmonary venous return. This substantial increase in pulmonary venous return occurs over the first few minutes after birth.

As soon as the cord is clamped, systemic vascular resistance increases impacting the left ventricular output. In the meantime, as baby begins to breathe, pulmonary vascular resistance decreases, and pulmonary flow should increase from 10% to 50%. However, as the placental flow to the baby is now interrupted, right ventricular filling and therefore, the pulmonary blood flow becomes sub-optimal leading to decreased pulmonary venous return adversely affecting left ventricular output, and consequently, the cerebral blood flow.

When cord clamping is delayed until breathing is established, placental blood flow through umbilical venous return continues to fill the right side of the heart ensuing adequate pulmonary vascular filling over several breathing cycles. This preserves the optimal pulmonary venous return thus maintaining the left ventricular preload and the cardiac output permitting smoother extrauterine transition of the cardiorespiratory system.

Recently, the impact of a physiological approach to cord clamping in preterm lambs was studied [3]. It was shown that immediate cord clamping before ventilation increased systemic vascular resistance with a consequent rise in carotid artery blood flow followed by a drop in the carotid blood flow and a gradual rise subsequently [4]. This contrasted with the smooth maintenance of carotid and cerebral blood flow with delayed cord clamping after ventilation was established. These rapid fluctuations in cerebral blood flow may explain why some preterm infants suffered intraventricular hemorrhages in the early clamping group.

A sophisticated computer model developed by Carnegie-Mellon University group also concluded similarly supporting the physiological approach to cord clamping after the ventilation was established [5]. Hence, it may be better not only to delay the cord clamping but also to ensure that baby has established breathing for a smoother extra-uterine cardio-respiratory transition. This concept needs to be validated in clinical studies on humans.

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