

Comparative Efficacy and Safety of Caffeine and Aminophylline for Apnea of Prematurity: Few Concerns

We read with interest the recent paper by Shivakumar, *et al.* [1] comparing efficacy and safety of Caffeine and Aminophylline for apnea of prematurity. We noted few errors in the study. According to Table II, the apneic episodes are significant for the '1-3 days' period ($P=0.03$), rather than for the '4-7 days' period ($P=0.05$). However, on page 281 of their article, the authors stated that "apneic episodes during 4-7 days of therapy was found to be significantly higher in Caffeine group ($P=0.03$)." Another piece of data that was likely erroneously mentioned was in figure 1 (study flow). In the caffeine group, the neonates who completed treatment and follow-up are mentioned as 79; however, it should have been 77. Similarly, in the aminophylline group, this number should be 79 rather than 77.

With regard to study methodology, we have few comments. Apnea of prematurity includes both central and obstructive apnea [2]. It would have been better if the study group was sub-classified into these two subgroups as those with predominant obstructive component are unlikely to respond to methylxanthines [2,3]. It might even have been better to exclude the babies with obstructive apnea. As per the results, some of the babies in the caffeine group had upto 20 apneas in a day during the 4-7 days period after initiating methylxanthines as per the study protocol. It may be risky predisposing these preterms to significant hypoxia by not choosing/opting to go for higher mode of acceptable therapy like CPAP or conventional ventilation for recurrent apnea [2-4].

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AUTHORS' REPLY

We are thankful to readers for keen interest in our study [1].

There were a couple of typographical errors in the published paper. We regret these typographical errors and thank the readers for pointing them out. We have already submitted an erratum that has been published in the October 2017 issue of the journal on page 870.

Apnea is categorized based on presence or absence of upper airway obstruction; 40% of the episodes are central or diaphragmatic with no evidence of obstruction, 10% are obstructive, and 50% are mixed [2]. Majority of participants in our study experienced mixed type of apnea with both central and obstructive elements. Our study did not predispose the participants to hypoxia. Firstly, it was not 20 apnea episodes per day. Apneas were recorded per 24 hours and sum of apneic spells during 4th to 7th day of therapy was depicted in the Table II (20 is total episodes). Any neonate with recurrent apneas, or apnea requiring bag and mask ventilation was considered for CPAP. Conventional mechanical ventilation was the backup option for infants who had significant apnea and bradycardia on methylxanthines and CPAP.

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