Acid-base equilibrium in premature infants: don't forget feeding type

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Dear Editor,

Bourchier and Weston [1] have demonstrated that normal metabolic acidosis is commonly seen in extremely preterm infants. It is most pronounced by day 4 and has resolved in most infants by day 11. We commend the authors for this observation as well as for their comprehensive review of renal tubular immaturity.

However, although they have controlled for the amount of alkali, chloride, albumin, amino acid and lipid intake in intravenous solutions, they have overlooked enteral feeds which increases the possibility of missing information or unmeasured confounders. Several studies have been designed to compare the acid-base balance of preterm infants fed human milk with that of similar infants fed infant formula. Schanler et al. [3] found that the human milk group had more serum bicarbonate values <20 mmol/L than the preterm formula group. Kalhoff et al. [2] found that net acid excretion in preterm infants on human milk was low when compared to standard formula. It appears that a very small amount of human milk in the first days of life affects the metabolic response of very preterm infants [4]. Trophic feeding with human milk is reflected by different serum biochemistries.

Bourchier and Weston state that two out of 67 infants established full enteral feeds throughout the study period. This

suggests that they may have collected enough data on enteral feeds to determine whether early feeding type affects acid-base balance in the extremely preterm infant. We encourage them to not lose this opportunity to better characterise the natural history of early metabolic acidosis among extremely preterm infants.

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