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Letter to Editor

Dear Editor,

I read with great interest the article “Safety and effectiveness of bubble continuous positive airway pressure in preterm neonates with respiratory distress” by Mathai et al. published in *Med J Armed Forces India* 2014; 70: 327–331.¹ The study highlights the efficacy, safety and ease of use of bubble CPAP in preterm neonates and tremendous potential of decreasing need of intubation and ventilation and thus preventing ventilator associated complications. Having gone through the article, I would like to add the following:

Physiologically CPAP alone leads to promotion of lung growth, increases compliance of lungs, decreases pulmonary vascular resistance and decreases work of breathing, unlike conventional ventilation where as little as few mechanical breaths can lead to barotrauma, volutrauma, atelecto-trauma and biotrauma. The greatest advantage of bubble CPAP as compared to ventilator CPAP is that loss of CPAP pressure is detectable by the disappearance of bubbling in addition to the fact that bubbling itself contributing to gas exchange. In preterm lamb model comparing bubble CPAP with ventilator generated CPAP, bubble CPAP was associated with slightly higher pH, better oxygenation and decreased alveolar exuded protein.² In a pilot RCT, Tagare et al. showed that success rate of bubble CPAP was same as ventilator CPAP in preterm infants with respiratory distress.³ Even in a recent Indian study bubble CPAP was found to be as effective as conventional ventilator in preventing extubation failure.⁴ Keeping in mind the burden of prematurity, this has implication for resource poor nations in decreasing cost of care as the cost of a bubble CPAP machine is much lower than a ventilator.

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