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The efficacy of albumin with diuretics in the mechanically ventilated patients with hypoalbuminemia : systematic review and meta-analysis

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ABSTRACT

Hypoproteinemia is significantly correlated with fluid overload, development of ARDS and mortality[1, 2]. According to a large European observational study, a positive fluid balance is one of the factors for death (OR 1.1, 95%CI 1.0-1.1, p-value 0.001)[3]. Thus, to achieve the improvement of systemic status and increase ventilator free days, reducing fluid volume is essential[4].

So far, the effect of albumin with the diuresis in hypoalbuminemia has been investigated in several randomized controlled trials (RCTs)[5-9]. Furthermore, a systematic review and meta-analysis suggested that the effect of albumin was limited only to transient improvements of urine volume[10]. However, this analysis did not investigate the mechanically ventilated critically ill patients. Although a systematic review in 2014 was conducted to investigate that colloids could improve diuresis in patients mechanically ventilated, this review did not include recent RCTs[11]. Thus, we still don't have a clear answer for the improvement of the haemodynamic stability, mortality or ventilator free days.

Our aim is to clarify the benefit of albumin administration for the mechanically ventilated patients in combination with the diuresis in this systematic review and meta-analysis.

ATTACHMENTS

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