

Association of hypernatremia with mortality in patients with COVID-19: a systematic review and meta-analysis

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Abstract

Abstract Background: The purpose of this meta-analysis was to look at the relationship between hypernatremia and mortality in COVID-19 patients. **Methods:** We searched the PubMed, Web of science, Embase and Cochrane databases for articles published from the inception of the database until August 27, 2022. Three researchers reviewed the literature, retrieved data, and assessed the quality of the literature, respectively. A meta-analysis was performed using State 17 software to assess the value of the effect of hypernatremia on mortality in patients with new coronavirus pneumonia. **Results:** A total of 9 publications was finally included in this study, including a total of 11,801 patients with COVID-19, including 1,278 in the hypernatremia group and 10,523 in the normonatremia group. Meta-analysis showed that hypernatremia was associated with mortality in patients with COVID-19 [OR = 4.15, 95% CI (2.95-5.84), P = 0.002, I² = 66.7%] with a sensitivity of 0.36 [0.26, 0.48] and a specificity of 0.88 [0.83, 0.91]. The posterior probability of mortality was 42% in patients with COVID-19 hypernatremia and 15% in patients who did not have COVID-19 hypernatremia. **Conclusion:** According to available data, hypernatremia is associated with death in patients with COVID-19.

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