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ABSTRACT

Probiotic as an adjuvant preventive treatment for ventilator associated pneumonia: an evidence-based case report

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Background and objectives : Ventilator-associated pneumonia (VAP) is one of the most frequent nosocomial infections in patients requiring mechanical ventilation. It leads to prolonged duration of mechanical ventilation and ICU stay that is associated with a high rate of mortality, and the increase of healthcare burden. There have been various attempts to reduce the incidence of VAP including the use of antibiotics, but neither of these has conclusively shown to be beneficial. Probiotics have preventive effects in VAP through the suppression of pathogenic bacteria, enhancement of innate immunity, and promotion of epithelial barrier function. This study aimed to find out the efficacy of probiotic as adjuvant preventive treatment in patients with high risk of VAP.

Method: : Electronic literature researches were performed in PubMed, Cochrane, and Science Direct according to the clinical question. Articles were screened based on inclusion and exclusion criteria. After screening, the articles were critically appraised according to Validity, Importance and Applicability criteria with CEBM Critical Appraisal tool.

Results: Thirteen articles were selected based on the eligibility criteria and relevance to the clinical questions, in which seven articles found significantly lower risk of VAP in critically ill patients receiving probiotics treatment. There are also several positive outcomes seen in probiotics treatment, such as less vasopressor dependent days, reduced ventilated days, ICU stay, and hospital stay.

Conclusion: Probiotics can serve as a promising adjuvant preventive treatment for ventilator associated pneumonia.

Keywords: probiotics, ventilator associated pneumonia, VAP, prevention

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