

Category : **Sepsis/septic shock: management**

**A142 - Beta-blocker therapy in patients with sepsis—beneficial effects on mortality with pre-exposure or newly initiated treatment: a systematic review and meta-analysis**

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### **Introduction:**

Adrenergic antagonism has been reported to reduce mortality in sepsis, whether administered before or during the septic episode. We aimed to systematically review the literature relating to the outcomes of patients with sepsis exposed to beta-blockers either before or during their septic episode.

### **Methods:**

. We searched PubMed, Medline, the Web of Science and the Cochrane Library databases for studies reporting mortality outcomes in septic patients receiving beta-blockers up to 1 May 2021. We conducted analyses to measure the crude and adjusted mortality rates, along with sensitivity analyses. We evaluated the certainty of evidence according to the GRADE approach.

### **Results:**

We identified and included 25 studies reporting data for 63,218 patients. The mortality rates were lower in patients receiving beta-blockers either before or during their septic episode, compared to the controls, with mortality odds ratios (OR) of OR 0.82 (95% CI [0.74–0.91],  $p < 0.001$ ) and 0.52 (95% CI [0.31–0.85],  $p = 0.01$ ) respectively. Pooled, adjusted and sensitivity analyses revealed a protective association between beta-blocker exposure and mortality with a low certainty of evidence.

### **Conclusion:**

In conclusion, our meta-analysis suggests that, in patients with sepsis and septic shock, pre-exposure to beta-blockers and the introduction of beta-blocker therapy during sepsis treatment may be associated with reduced mortality.