

## **Polymyxin B hemoperfusion for septic shock**

Endotoxin, a component of the cell wall of Gram negative bacteria, is a major trigger of the pathogenesis of septic shock. It activates cytokines that induce systemic inflammation, endothelial damage, shock, and multiple organ injury. Polymyxin B immobilized fiber cartridge has been proven to effectively remove endotoxin. Several clinical studies have revealed the potential benefit of polymyxin B hemoperfusion (PMX-HP) in septic shock patients with intra-abdominal infection or systemic gram-negative bacterial infection. However, several studies reported no survival benefit of PMX-HP in septic shock patients. We conducted a systemic review, meta-analysis update, and disease severity subgroup meta-analysis to investigate the effects of PMX-HP on mortality in patients with severe sepsis and septic shock. This study demonstrated that PMX-HP reduces mortality in patients with severe sepsis and septic shock in specific disease severity subgroups. Selecting appropriate patients for PMX-HP treatment at the right time is crucial to improve survival.