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REHOSPITAL MANAGEMENT OF SEPSIS

Christie L Fritz

EMS Division, Emergency Medicine, Beth Israel; Deaconess Medical Center; Harvard Medical School; BIDMC Ambulance Service, USA

Sepsis affects an estimated 166 million patients yearly and 21.4 million sepsis-related deaths occurred worldwide in 2021, accounting for nearly one-third (31.5%) of all global deaths, and EMS clinicians are often the first to encounter these patients. This lecture briefly reviews the definitions of sepsis, septic shock, and SIRS, and the limited performance of bedside screening tools. It reviews the evidence on early fluid resuscitation versus early vasopressors, including the NHLBI PETAL trial, which showed no mortality difference between restrictive and liberal strategies, and discusses the emerging role of prehospital point-of-care lactate for identifying patients at higher risk of death. The talk compares push-dose pressors, which are useful as a short-term bridge for peri-intubation or transient hypotension but carry a risk of dosing error, with continuous pressor infusions, which provide sustained and titratable hemodynamic support and are best for persistent shock and long transports. It also addresses stress-dose steroids, which are reserved for refractory shock and for patients with known adrenal insufficiency or chronic steroid use.

The second half focuses on prehospital antibiotics. Existing evidence is largely neutral: the PHANTASi randomized trial found no mortality, ICU admission, or length-of-stay benefit, and a recent French physician-staffed unit cohort found no difference in 28-day mortality (39.0% vs 38.5%), with a high blood culture positivity rate (35.4%) and low contamination rate (3.1%). The talk reviews logistical concerns, including culture bottle availability, contamination risk, and the lower sensitivity of cultures drawn after antibiotics. A review of US statewide EMS protocols found that only 4 of 30 states include antibiotics for sepsis (ceftriaxone most commonly, with cefazolin and moxifloxacin also used), compared with 11 states for open fractures. Prehospital sepsis alerts, however, shortened the time to IV fluids (6 minutes), blood cultures and lactate (12 minutes), and antibiotics (33 minutes). Key takeaways are early recognition, early fluids and pressors when needed, management of fever, hypoglycemia, and hypoxia, antibiotics where system protocols allow, and early hospital notification using "sepsis alert" language.

Keywords: Prehospital Sepsis Management, Septic Shock, Prehospital Antibiotics, Fluid, Resuscitation and Vasopressors, Point-of-Care Lactate