To determine the factors that influence the decision to transfer children in septic shock from level II to level I pediatric intensive care unit (PICU) care” Odetola et al (2018).

Abstract

OBJECTIVE: To determine the factors that influence the decision to transfer children in septic shock from level II to level I pediatric intensive care unit (PICU) care.

DESIGN: Interviews with level II PICU physicians in Michigan and Northwest Ohio. A hypothetical scenario of a 14-year-old boy in septic shock was presented.

BASELINE: 40 mL/kg fluid resuscitation, central venous and peripheral arterial access, and high-dose vasopressor infusions were provided.

ESCALATION POINT: After 2 hours. When the patient is in catecholamine-resistant shock and oliguric, invasive mechanical ventilation is initiated.

MEASUREMENTS AND MAIN RESULTS: All 19 eligible physicians participated. At baseline, respondents would assess measures of perfusion and hemodynamics: blood pressure (BP; 15 [79%]), lactate (12 [63%]), and central venous oxygen saturation (ScvO2; 10 [53%]). Poor clinical response was signified by low BP (11 [58%]), elevated lactate (9 [47%]), low urine output (8 [42%]), and low ScvO2 (6 [32%]). At the escalation point, 13 of 18 respondents felt
there was <50% probability of clinical turnaround without escalating treatment, though only 3 (16%) would call to discuss transfer. Seven (37%) respondents would give more fluid, whereas 8 (42%) would use central venous pressure to guide fluid resuscitation. Ultimately, 15 (79%) respondents would transfer for extracorporeal membrane oxygenation (ECMO) or renal replacement therapy if there was no response to escalated care. Four (21%) respondents would not transfer the patient: 1 felt appropriate care could be provided in the level II PICU, 2 felt transfer was unconventional, and 1 was unaware ECMO could be provided in refractory septic shock. CONCLUSIONS: Level II to level I PICU transfer of children with septic shock is triggered by perceived nonresponse to locally available therapies. Few referring physicians do not transfer children in refractory septic shock. This study provides new insight into decision-making that influences the interhospital transfer of children with septic shock.

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Reference: