Prehospital suspicion and identification of adult septic patients: Experiences of a screening tool

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Introduction: Sepsis is life threatening and requires urgent healthcare to reduce suffering and death. Therefore it is important that septic patients are identified early to enable treatment.

Aim: To investigate to what extent EMS personnel identified patients with sepsis using the “BAS 90-30-90” model, and to describe assessments and medical procedures that were undertaken by the personnel.

Methods: This was a retrospective study where 185 EMS medical records were reviewed. The inclusion was based on patients who were later diagnosed with sepsis in the hospital.

Results: A physician assessed the patients in 74 of the EMS cases, which lead to exclusion of these records in regard to the EMS personnel's ability to identify sepsis. The personnel documented suspicion of severe sepsis in eight (n=8) of the remaining 111 records (7.2%). The proportion of patients ≥65 years of age was 73% (n=135) of which 37% (n=50) were over 80 years old. Thirty-nine percent (39%, n=72) were females. The personnel documented blood pressure in 91% (n=168), respiratory rate in 76% (n=140), saturation in 100% (n=185), temperature in 76% (n=141), and heart rate in 94% (n=174) of the records. Systolic blood pressure <90 mmHg was documented in 14.2% (n=24), respiratory rate ≥30 in 36% (n=50), saturation <90 in 49% (n=91), temperature >38°C in 37.6% (n=53), and heart rate ≥90 in 70% (n=121) of the records. Documented medical procedures and treatments were intravenous lines (70%, n=130), intravenous fluids (10%, n=19) and administration of oxygen (72%, n=133).

Conclusion: The EMS personnel identified only a few septic patients with the help of the BAS 90-30-90 model when all three criteria would be met for severe sepsis. Either advanced age (≥65 years), fever (≥38°C) or tachypnea (≥20 breaths/min) appeared to increase the personnel’s suspicion of sepsis. Oxygen, but not intravenous fluids, was given in an adequate way.

Keywords: Sepsis, Assessment, Screening tool, Medical record review