SEPSIS CODE: IMPROVING OUTCOMES FOR PATIENTS WITH SEPSIS
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Background and Importance
Sepsis is a potentially life-threatening condition triggered by an infection. Early identification and appropriate management in the initial hours after the development of sepsis are crucial.

Code Sepsis (CS) includes standardized Surviving-Sepsis-Campaign management bundles meant to guide early recognition and prompt goal-directed therapy, in order to improve clinical outcomes.

Aim and Objectives
To assess the impact of Code Sepsis implementation on clinical outcomes and antibiotic therapy.

Materials and Methods

- Experimental study
  - November 2020 – September 2022
- Patients with presumed/confirmed sepsis/shock septic (CS alert)
- CS TEAM Daily evaluation
- Management/ treatment suggestions

MAIN OUTCOME
- In-Hospital Mortality Rate (IMR)

SECONDARY OUTCOMES
- Median length of hospital-stay (LOS)
- Intensive Care Unit stay (ICU-LOS)
- Severity criteria: ICU-admission (%)
- Mean length of antibiotic therapy: overall, antipseudomonal-carbapenemes, anti-Gram-positive (daptomycin, vancomycin, linezolid)

Quantitative variables: median and interquartile range (IQR)
Trend analysis: lineal-regression
Significance level: 0.05

Results

- N= 422 CS ALERT
  - Corresponding to 402 patients
  - 61,6% males
  - Median age 79 yrs (IQR=16)

Overall mortality rate was 20.6%
Mortality rate was reduced in 53.8%

LENGTH OF STAY
- Median LOS was 8 days (IQR=12);
  - Negative trend (slope=-0.4; CI95% -0.7 to 1.02).
- Median ICU-LOS was 6 days (IQR=8.7);
  - Decreasing trend (slope=-0.2; CI95% -0.6 to 0.2).
- ICU-admissions: 9% (slope=-0.2; CI95% -0.6 to 0.2)

LENGTH OF ANTIBIOTIC THERAPY
- Overall antibiotics: 9.3 days;
  - Negative trend (slope=-3.2; CI95% -0.9 to 0.2).
- Antipseudomonal-carbapenemes: 4.2 days
  - (slope=-2.2; CI95% -0.5 to 0.1)
- Anti-Gram-Positive: 5.4 days (slope=-0.1; CI95% -0.8 to 0.6)

Conclusion and Relevance
- The CS implementation was associated with a decrease mortality, with an overall reduce by up to 50%.
- The downward trend in LOS and ICU-admissions suggests that an early recognition of sepsis and optimized-treatment are crucial in preventing complications.
- Daily patient surveillance and follow-up by a multidisciplinary team promoting antimicrobial de-escalation/discontinuation was associated with shorter courses of antibiotics, specially of broad-spectrum antibiotics, without worsening clinical outcomes.

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