

<p>Larche, J., Azoulay, E., Fieux, F., Mesnard, L., Moreau, D., Thiery, G. et al. (2003). Improved survival of critically ill cancer patients with septic shock. Intensive Care Medicine, 29, 1688-1695.</p>
<p>Country:</p> <p>France</p>
<p>Design:</p> <p>Retrospective cohort study</p>
<p>Population:</p> <p>88 adult patients admitted to ICU with septic shock</p>
<p>Inclusion criteria:</p> <p>Septic shock (defined on the basis of the five following criteria: a) clinical evidence of infection; b) tachycardia (>90 beats/min); c) tachypnea (>20 breaths/min) or need for mechanical ventilation; d) refractory hypotension defined by sustained decrease in systolic blood pressure <90 mmHg despite fluid replacement (500 ml), or use of vasopressor to maintain systolic blood pressure >90 mm Hg; and e) evidence of inadequate organ function / perfusion within 12 h of enrollment, as manifested by : acute alteration of mental status /arterial hypoxemia (PaO₂/FiO₂<280) / plasma lactate concentrations above the normal range or metabolic acidosis / oliguria / disseminated intravascular coagulation.</p>
<p>Exclusion criteria:</p> <p>Allogenic bone marrow transplantation</p>
<p>Interventions:</p> <p>None</p>
<p>Outcomes:</p> <p>30 day mortality rate</p> <p>Median length of ICU stay</p>
<p>Results:</p> <p><u>30 day mortality rate</u></p> <p>57 (65.5%) (for entire sample)</p> <p><u>Odds ratio for 30 day mortality</u></p> <p>Odds ratio: 7.05; 95% CI, 1.17 to 42.21 (P = 0.03)</p>

Median length of hospital stay

5 (2–13.75) (for entire sample)

(Quality of life and overtreatment were not reported. Severe sepsis was not reported on the basis that all participants were suffering septic shock at baseline. Median length of ICU stay was reported (although this was not linked to time to antibiotic treatment, reported for the entire sample), median length of hospital stay was not)

General comments:

This was a retrospective study of 88 cancer patients admitted to ITU with septic shock, aiming to identify predictors of 30 day mortality. A multivariable analysis was performed using a stepwise forward selection procedure.

Lin, M. Y., Weinstein, R. A., & Hota, B. (2008). Delay of active antimicrobial therapy and mortality among patients with bacteraemia: impact of severe neutropenia. <i>Antimicrobial Agents & Chemotherapy</i>, 52, 3188-3194.
Country: USA
Design: Retrospective cohort study
Population: Adult 1523 episodes of mono-microbial bacterial bloodstream infections
Inclusion criteria: Adults (age ≥ 18) Monomicrobial bacterial bloodstream infection
Exclusion criteria: Blood isolates of common skin commensals Anaerobes Discharge/death within one day of hospital admission Bacteremia due to a second organism within 30 days of index bacteremia
Interventions: No intervention
Follow up: 30 days
Outcomes: Mortality
Results: <u>Antimicrobial therapy delay</u> Antimicrobial agent within 24 hours of index blood culture: 983 (64.5%)

Not treated with antimicrobial agent within 24 hours of index blood culture (delayed): 540 (35.5%)

Mortality

Antimicrobial agent within 24 hours of index blood culture: 8.0%

Not treated with antimicrobial agent within 24 hours of index blood culture (delayed): 9.3%

Odds ratio for 30 day mortality

Delay versus non delay (ICU)

ANC < 100: Adjusted odds ratio, 18; 95% CI, 2.84 to 114.5 (P < 0.01)

ANC 100-500: Adjusted odds ratio, 1.92; 95% CI, 0.17 to 21.6 (P = 0.60)

ANC > 500: Adjusted odds ratio, 1.78; 95% CI, 0.91 to 3.45 (P = 0.10)

Delay versus non-delay (non-ICU)

ANC < 100: Adjusted odds ratio, 5.56; 95% CI, 0.85 to 36.3 (P < 0.01)

ANC 100-500: Adjusted odds ratio, 0.59; 95% CI, 0.06 to 6.22 (P = 0.60)

ANC > 500: Adjusted odds ratio, 0.55; 95% CI, 0.29 to 1.02 (P = 0.10)

(Over treatment, severe sepsis, length of stay, and quality of life were not reported in relation to time to antibiotic treatment)

General comments:

This was a well conducted large-scale retrospective cohort study of 1523 patients with mono-microbial bloodstream infections from 2001 to 2006. The impact of delay of active antimicrobial therapy on mortality was examined using multivariable logistic regression. Only 67/1523 (4.4%) participants had ANC < 500 cells/ μ l. 44/1523 (2.8%) had what was defined as severe neutropenia (ANC < 100 cells/ μ l). It was unclear whether participants were cancer patients.