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ePoster Viewing
Sepsis, bloodstream and graft infections: Staphylococcus aureus and others

FACTORS ASSOCIATED WITH CASE-FATALITY IN STAPHYLOCOCCUS AUREUS BACTERAEMIA, A LARGE OBSERVATIONAL STUDY

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Objectives. *Staphylococcus aureus* bacteraemia (SAB) is frequent and associated with poor outcomes in industrialised countries. This study's aim was to update the knowledge about factors associated with 12-week case-fatality.

Methods. We conducted an observational prospective multicentre cohort study (VIRSTA) in 8 tertiary care centres in France. All consecutive incident adults with positive blood culture specimen seen between April 2009 and October 2011 were included. Their data were collected using a standardised online form. Patients with positive cultures from vascular devices only were excluded. Multivariate logistic regression was used to identify independent factors associated with death 12 weeks after the first positive blood culture. The impact of first line antibiotic treatment was assessed in the subgroup of patients who survived the first day and received at least one antibiotic dose.

Results. We enrolled 2091 patients with SAB, among whom follow-up was complete for 1972 patients (median age: 67.8 years, inter-quartile range: 55.5-78.9, male gender 64.9%). Most frequent comorbidities were cancer history (29.3%), diabetes (27.9%) and chronic renal insufficiency (27.8%). SAB was nosocomial or health-care related in 69.6% and MRSA accounted for 18.6% of the cases. Primary focus was vascular access in 27.9%, skin in 19.1% and unknown in 21.0%. Case fatality at week 12 was 34.0%.

Main independent prognostic factors were: age (adjusted OR by 10-year increment, 1.56; 95% CI, 1.44–1.69), septic shock (OR, 5.11; CI, 3.84-6.81), severe sepsis (OR, 2.44; CI, 1.81-3.28), metastatic cancer (OR, 4.27; CI, 2.86-6.35), unknown primary focus (OR, 2.62; CI, 2.01-3.41), primary and secondary pulmonary foci (OR, 2.29; CI, 1.46-3.59 and OR, 2.09; CI, 1.42-3.08, respectively) and complications including stroke (OR, 1.75; CI, 1.06-2.88) and heart failure (OR, 1.79; CI, 1.25-2.58). Diabetes, peripheral arteriopathy, chronic obstructive pulmonary disease and immunosuppressive therapy were not associated with case-fatality.

We adjusted on previously identified prognostic factors among the 1896 patients who survived the first day and received at least one antibiotic dose (Figure). The following first line antibiotic combinations were associated with a lower risk of 12-week case-fatality: oxacillin + aminoglycoside (OR, 0.41; CI, 0.20-0.81), vancomycin + aminoglycoside (OR, 0.37; CI, 0.19-0.72) and vancomycin + oxacillin (OR, 0.33; CI, 0.14-0.76).

Conclusion. SAB is a deadly disease and modifiable factors are scarce. Sepsis, underlying comorbidities and unknown primary focus have a major impact. Combination prescription of anti-staphylococcal antibiotics may be associated with better outcome.

Figure: First line antibiotics and 12-week case-fatality (n=1896)