To determine the characteristics of bloodstream infections (BSIs) and to evaluate the impact of BSIs on mortality in severe burn patients” Tang et al (2017).

Abstract:

OBJECTIVES: To determine the characteristics of bloodstream infections (BSIs) and to evaluate the impact of BSIs on mortality in severe burn patients.

METHODS: A retrospective observational study was conducted in 20 tertiary hospitals. A total of 185 Patients who experienced a massive dust explosion in eastern China were included.

RESULTS: After exclusion, 177 patients were analyzed. The median total body surface area (TBSA) burned was 95% (interquartile range , 85%-98%). Inhalation injuries occurred in 97.2%. The overall 90-day mortality was 35% (62/177). During the study period, 120 (67.8%) patients developed 253 episodes of BSI with 323 unique causative pathogens. Sixty-six episodes were polymicrobial infections. Catheter-related BSIs (CRBSIs) accounted for 41.5% of the episodes. Acinetobacter baumannii (19.5%), Klebsiella pneumoniae (13.9%), and Candida (12.7%) were the most common organisms. Sixty-three point five percent of the
isolates were antimicrobial resistant, particularly in gram-negative bacteria. Patients who developed BSIs had a greater illness severity at ICU admission, and worse outcomes. After adjusting for demographics, severity of illness, and treatment characteristics in a multivariate logistic model, there was a trend toward BSI increasing the risk of 90-day mortality (adjusted OR 3.4; 95%CI 0.9-12.9; p=0.069). In subgroup analyses, CRBSI (adjusted OR 5.7; 95%CI 1.3-24.9; p=0.021 vs. no BSI) and polymicrobial BSIs (adjusted OR 6.1; 95%CI 1.3-28.1; p=0.020 vs. no BSI) had greater risk of 90-day mortality.

CONCLUSIONS: A strikingly high rate of BSIs was observed in severe burn patients. Gram-negative organisms and fungi were the leading causes. CRBSIs and polymicrobial BSIs were associated with high mortality.

Reference:


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