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Abstract (eposter session)

Mortality predictors for central line-associated bloodstream infection caused by Staphylococcus aureus

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Objectives: to evaluate risk factors for mortality in patients with central line associated bloodstream infection (CLABSI) caused by Staphlococcus aureus. Methods: a retrospective cohort of patients aged 18 or older at a major 1000 bed teaching hospital. Only the first episode of CLABSI (defined by the Centers for Disease Control and Prevention criteria) occurred between January 2011 and March 2012 was included. Cases were obtained from infection control database and data collected by chart review. Primary outcome was defined as all causes mortality in 14 and 30 days. Investigated variables were age, sex, hypertension, diabetes, hepatopathy, immunosuppression, methicillin resistance, dialysis, surgery, concomitant infection, adequate treatment (adequate spectrum, adequate drug for more than 48 hours and for vancomycin, through levels >= 15 mg/L in at least 70% of dosages). Minimal inhibitory concentrations (MIC) were obtained by automated method (VITEK®). Chi-square and Fisher exact tests were used for categorical variables. Means were analysed by t student test. Relative risks and interval confidence (IC 95%) were calculated. Epi Info 3.5.4 was used. Results: forty six cases were included. Mean age was 55 years (range 18 to 90), 52% of patients were male. Methicillin resistant Staphylococcus aureus (MRSA) caused 69.6% of infections. There were no demographic differences between MRSA and Methicillin susceptible Staphylococcus aureus infected patients. Crude mortality was 32.6%. Mortality in 14 and 30 days were 19.6% e 23.9% respectively. Mean time between diagnosis and death was 18.6 days (0 to 64 days). Receiving adequate treatment was the only risk factor for mortality (IC=0.4-0.99; p=0.05). Twenty eight patients received vancomycin and only 14 (53%) had adequate vancomycin through levels. There was no significant difference in mortality between patients who achieved or not adequate through levels (IC= 0.6-1.3; p=0.4). Among 42 patients who had MIC reported for vancomycin, 22 (52%) presented with 1 mcg/ml and 11 died, 6 (14%) with <= 0.5 mcg/ml and three (7%) presented with 2 mcg/ml and no deaths. Conclusion: adequate treatment was the only predictor of good outcome in the study population. Although adequate through levels is indicated in current guidelines for successful MRSA treatment, this was not observed in this cohort. Further prospective clinical studies are necessary to confirm our findings.