"The epidemiologic data of catheter related blood stream infections (CRBSI) is different in each type of Intensive Care Unit (ICU). The objectives were to identify microbiological patterns, risk factors and mortality analysis in the surgical intensive care unit (SICU)." Cheewinmethasiri et al (2014).

Reference:

Abstract:

OBJECTIVE: The epidemiologic data of catheter related blood stream infections (CRBSI) is different in each type of Intensive Care Unit (ICU). The objectives were to identify microbiological patterns, risk factors and mortality analysis in the surgical intensive care unit (SICU).

MATERIAL AND METHOD: All CRBSI cases were reviewed in a 60-months period from the 1st of January, 2005 through the 31st of December, 2009. Two or three control patients, who had been catheterized within three days and were free of CRBSI, were randomly selected from the ICU admissions registration book as the control group; demographic data, mortality, organisms found and antibiotic sensitivity were recorded and analyzed.

RESULTS: In the 5-years period, 44 patients were diagnosed with a CRBSI and 129 patients who were without a CRBSI were selected. The total infection rate was 1.31 per 1,000 catheter-days. Nine patients who contracted a CRBSI (20.4%) expired. A primary diagnosis of gastrointestinal problems had shown the greatest risk for developing a CRBSI (69.7%). In proportions of gram negative bacteria:gram positive bacteria:fungus, this was measured at 43:36:21 respectively. Staphylococcus aureus was the most common gram positive bacteria found. Klebsiella pneumoniae, Enterobacter cloacae and Pseudomonas aeruginosa were the three most common gram negative bacteria found. The chance of developing a CRBSI was significantly increased after 10 days of catheterization. The mortality probability of gram negative bacterial infections and fungal infections increased over time. This was in contrast to gram positive bacterial infections, which decreased over time despite having shown the highest possibility of death earlier in catheter days. As for multivariable analyses, catheterization of patients in the general wards was the sole independent risk factor of CRBSI occurrences (OR = 8.67, p < 0.01) and the males (OR = 7.20, p = 0.03) have shown the highest risk factors for mortality.

CONCLUSION: The occurrence of gram-negative bacteria and gram-positive bacteria related CRBSI was similar but the probability patterns of increasing the catheter days relating to
CRBSI occurrence and mortality rates were different. Catheterization in the general wards was the only independent risk factor found for contracting a CRBSI in our institute. Males had the highest risk for mortality.

Other intravenous and vascular access resources that may be of interest (External links – IVTEAM has no responsibility for content).