

**Friedrich AW, Köck R, Goeters C, Becker K, Pohl K, Rosenthal VD. Central line associated bloodstream infection rates, extra length of stay, extra mortality and microbiological profile in a German tertiary intensive care unit: findings of the International Nosocomial Infection Control Consortium. In: Proceedings and Abstracts of the 14th Annual Meeting of the International Society of Infectious Diseases (ICID); 2010; Miami, Florida, U.S.A.: March 9-12; 2010.**

Central line associated bloodstream infection rates, extra length of stay, extra mortality and microbiological profile in a German tertiary intensive care unit: findings of the International Nosocomial Infection Control Consortium.

Alexander W. Friedrich<sup>1</sup>, \* Robin Köck<sup>1,2</sup>, Christiane Goeters<sup>3</sup>, Karsten Becker<sup>2</sup>, Karin Pohl<sup>1,3</sup>, Victor D. Rosenthal<sup>4</sup>

1-University Hospital Munster, Institute of Hygiene, Munster, Germany.

2- University Hospital Munster, Institute of Medical Microbiology, Munster, Germany.

3-University Hospital Munster, Department of Anaesthesiology and Intensive Care, Munster, Germany

4-International Nosocomial Infection Control Consortium, Buenos Aires, Argentina.

**Objectives:** To determine rate and consequences of central line associated bloodstream infection (CLAB) in 1 German surgical intensive care unit (ICU) cooperating with the International Nosocomial Infection Control Consortium (INICC).

**Methods:**

We performed an open label, prospective cohort, active surveillance study in adult ICU patients of a German tertiary-care hospital. At the ICU, for all patients semi-rigid and/or glass infusion containers and stopcocks were used. INICC ([www.inicc.org](http://www.inicc.org)) protocols, forms and methods were used. According to these methods, data is collected from patients with and without healthcare associated infections (HAIs) enabling the match for variables such as age, gender, underlying diseases, diagnosis, severity-of-illness, invasive device use in order to calculate risk factors and outcome parameters. In this study, length of stay (LOS) and extra mortality are presented. Statistical analysis was performed using Chi-square test. P <0.05 was considered significant.

**Results:** 447 patients were enrolled from 02/08 to 10/08, representing 2,844 bed days. The overall CLAB rate was 7.86 per 1000 central line (CL) days. Overall, 33.3% of CLABs were caused by *Staphylococcus aureus* (n=4), 0% were methicillin resistant; 33.3% by coagulase-negative staphylococci (n= 4), 100% were methicillin resistant; and 33.3% by *Enterococcus* spp. (n=4), 0% were vancomycin resistant. LOS of patients without HAI was 4.5 days; LOS of patients with CLAB was 18.9 days (RR, 4.19; 95% CI, 3.68 - 4.77; P<0.001), representing 14.4 extra days. 20 of 406 (5%) patients without HAI died, whereas the course of 2 of 14 patients (14%) with CLAB was fatal. Extra mortality was 9% (RR, 2.90; 95% CI, 0.68 - 12.41, P = 0.13).

**Conclusions:** In this study, the CLAB rate of 7.86 per 1000 CL days is lower than the published rate of 9.2 per 1000 CL days observed in other hospitals cooperating in INICC.

INICC methods allow for the comparison between patients with and without HAIs; LOS in patients with CLAB was significantly higher, mortality rate was not significantly affected and no MRSA bacteraemia was observed.