

**Staphylococcus aureus: the prince of pathogens strikes back****Incidence, temporal trends and mortality of methicillin-sensitive *Staphylococcus aureus* in 1,234 bloodstream infections: a single-center analysis over 20 years in Switzerland**B. Wiggl<sup>1</sup>, S. Tschudin Sutter<sup>1</sup>, B. Lakatos<sup>1</sup>, M. Battegay<sup>1</sup>, R. Frei<sup>1</sup>, A. Widmer<sup>1</sup><sup>1</sup>Universitätsspital Basel, Basel, Switzerland**Objectives:**

*Staphylococcus aureus* bloodstream infections (SAB) are attributed with substantial mortality and cost. In the last decades, SAB with methicillin-resistant isolates (MRSA) have drawn the attention due to its likely higher morbidity and mortality compared to methicillin-sensitive *Staphylococcus aureus* bloodstream infection (MSSA BSI). However, several studies are published on SAB, but very few countries and hospitals report exclusively data from MSSA-BSI. We investigated incidence, temporal trends and mortality and predictors of outcome in a single center cohort over 20 years at a tertiary center in Switzerland where the rate of MRSA BSI is below 4%

**Methods:**

We conducted a retrospective analysis of the bloodstream infection cohort at the University Hospital of Basel. Data of all SAB episodes were collected between 1993 and 2012 by full-chart review, analysis of blood chemistry and hematology, underlying diseases, and antimicrobial treatment, bloodstream infections with MRSA were excluded. We analyzed incidence, temporal trends and mortality of MSSA BSI.

**Results:**

540.669 blood cultures were taken at the UHBS over 20 years during the study period until 2012. In this period the number of blood cultures/1000 patient-days increased from 97 to 147. We identified 1234 episodes of MSSA BSI with a yearly overall incidence per 1000 patient-discharges between 1.68 and 4.05 which remained stable with no significant variation. However we observe a significant increase in community-acquired cases, in parallel, nosocomial acquisition of MSSA BSI decreased significantly in the last decade ( $p < 0.05$ ). 30-day Mortality of MSSA-BSI at our institution is 15.5% with an attributable mortality of 9.6%.

**Conclusions:**

To our knowledge, this cohort is the largest single-center longitudinal study on MSSA-BSI over time in Europe without the bias of MRSA-BSIs. Overall incidence of MSSA BSI remained stable over the last 20 years: However, community-acquired cases of MSSA-BSIs increased, while hospital acquired decreased. MSSA remains an important pathogen in BSIs.

