

P2584 Occurrence of *Staphylococcus aureus* ICU pneumonia in Europe: preliminary results from a COMBACTE consortium study

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Background: *Staphylococcus aureus* (SA) is a pathogen frequently causing nosocomial pneumonia, particularly in the Intensive Care Unit (ICU). Variations in case definition and surveillance methods in Europe are barriers for an objective assessment of its occurrence. This has led to the design of ASPIRE-ICU (**A**dvanced understanding of **S**taphylococcus aureus and **P**seudomonas aeruginosa **I**nfections in **EuRopE** – **ICU**). We report preliminary results from this study, which investigated incidence of SA-ICU pneumonia (SAIP) in 11 countries in Europe.

Materials/methods: ASPIRE-ICU is a prospective, observational, multi-center cohort study, part of the COMBACTE (**COM**batting **BACT**erial resistance in **E**urope) consortium, among 2,000 ICU patients in Europe. Patients were enrolled based on their *S. aureus* colonization status at ICU admission, in a 1:1 ratio of colonized vs. non-colonized. Colonization was ascertained routinely in nose and lower respiratory tract and analyzed using standardized laboratory methods. The primary outcome evaluated was the incidence of SAIP during ICU stay. SAIP was defined as any pneumonia during ICU stay developing ≥ 48 hours after ICU admission, and isolating SA from lower respiratory tract or from blood.

Results: 1,959 patients were enrolled, of which 50.3% was colonized with SA. Mean age was 62 years, and 65% were male. SAIP developed in 76 patients, of which 4 episodes were caused by methicillin resistant SA. Incidence of SAIP was 63 per 11,562 patient days in SA colonized vs. 13 per 11,866 patient days in non-colonized patients. Cumulative incidence of SAIP during ICU stay was 6.4% in SA colonized vs. 1.3% in non-colonized patients (crude relative risk=4.8, 95% confidence interval 2.7-8.7, $p < 0.01$). Median time to SAIP was 6 days. Duration of ICU stay and mechanical ventilation was longer for SAIP patients, 13 vs. 19 days ($p < 0.01$) and 6 vs. 12 days ($p < 0.01$), respectively.

Conclusions: The overall cumulative incidence of SAIP in this study was higher in SA colonized vs. non-colonized patients (unadjusted RR=4.8).