

# 6<sup>th</sup> Clinical Microbiology Conference

October 20-22, 2016 Rome, Italy

## Community-acquired methicillin-resistant *Staphylococcus aureus*: Characteristics epidemiology, clinical, microbiology and molecular biology; *SCCmec* gene analysis and VISA in patients infected with *Staphylococcus aureus* and antibiotic resistance testing in 2 hospitals

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Community Acquired Methicillin Resistant *Staphylococcus aureus* (CA-MRSA) is a strain of MRSA that can cause infections in patients in the community, in which patients had no previous risk factors for MRSA infection. This study aims to determine and compare the characteristics of epidemiological, clinical and molecular biology of CA-MRSA with HA-MRSA. Of the 311 *S. aureus* isolates collected from 2 hospitals (RSAB Harapan Kita and RS Siloam Kebun Jeruk) during the period 2009 to 2011, the prevalence of MRSA is 6% and consists of CA-MRSA (2%) and HA-MRSA (4%), the pattern of infection as follows: SSTI (skin and soft tissue infections): 56%, UTI (urinary tract infection): 17%, RSA (acute rhino sinusitis): 11%, Pneumonia: 6%, Febrile observation: 5% and ILO (wound infection): 5%. The third-generation cephalosporins and quinolones are the antibiotics mostly used in this study. These third-generation cephalosporins are resistant to all isolates of MRSA (CA-MRSA and HA-MRSA), whereas quinolone resistant to HA-MRSA but still sensitive to CA-MRSA. The use of antibiotics against infections by *S. aureus* of 311 isolates showed that the use of antibiotics: Inappropriate 57%, appropriate 43%, adequate 43%, inadequate 57%, oral 79%, parenteral 21%, original 36% and copy product 64%. Furthermore, 11 strains of *Staphylococcus aureus* were performed by PCR, in which, there is one strain of Community-Acquired MRSA (CA-MRSA) with *SCCmec* type II, 3 strains of Hospital-Acquired MRSA (HA-MRSA) with *SCCmec* type IV and two strains of Hospital-Acquired MSSA (HA-MSSA) and five strains of Community Acquired MSSA (CA-MSSA) that do not contain *mecA* genes and *SCCmec*. From the three strains; one strain of CA-MRSA and two strains of HA-MRSA containing plasmid pUB110. *vraA* present in 91% of the 11 strains, *vraF*: 36%, *vraG*: 45% and *vraR*: 36%. Noteworthy, strains without pUB110 contained in a relatively high frequency of 75% in *vraR* as well as *vraF* and 70% in *vraA* compared to strains with pUB110: 60% in *vraG*.

### Biography

Latre Buntaran has completed his Clinical Microbiologist Specialist studies in 1996 at University of Indonesia and Postdoctoral studies from Hasanuddin University in 2012. He is the Head of Microbiology Department as well as Head of Infection Control Committee at Mayapada and Bethsaida Hospitals. He has published 4 papers in reputed journals and was a speaker in more than 200 national symposiums and several international congresses.

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