Latre Buntaran, J Antimicrob Agents 2018, Volume 4
DOI: 10.4172/2472-1212-C1-002

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 two 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 these patients had no previous risk factors for MRSA infection and the patient received 72 hours prior to infection when admitted to hospital. 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 two 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 Cephalosporin's and Quinolones are the antibiotics most used in this study. These third-generation cephalosporin's are resistant to all isolates of MRSA (CA-MRSA and HA-MRSA), whereas quinolone is 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 of the strain is CA-MRSA and two strains HA-MRSA contains plasmid pUB110. vraA is 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 Specialization from the University of Indonesia and Postdoctoral studies from Hasanuddin University. He is the Head of Microbiology Department as well as Head of Infection Control Committee at Mayapada and Bethsaida Hospitals. He has published four papers in reputed journals and has attended many international conferences and meetings.

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