

Detection of icaAD Gene of Biofilm-Producing Staphylococcus aureus Carriage Isolates Obtained from Health Care Workers and Healthy Communities in Banyumas, Indonesia

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Abstract	<p>Background: Asymptomatic biofilm-producing Staphylococcus aureus carriage play a pivotal role as a reservoir pathogen and increase the transmission rate in hospital as well as in healthy community. Biofilm- producing S. aureus which is regulated by the the ica AD gene reduce the antimicrobial ability in eliminating the pathogen. Objective: The aim of this study was to detect the icaAD gene of biofilm-producing Staphylococcus aureus carriage isolates obtained from healthcare workers and healthy Community in Banyumas, Indonesia. Methods: This descriptive observational study enrolled 60 healthcare workers and 60 healthy communities in Banyumas district. Antibiotic susceptibility test was using disc diffusion according to Clinical laboratory Standard Institute (CLSI) 2019. Biofilm-producing ability identified by using microtiter plate biofilm assay and the positivity of icaAD gene was performed by using PCR method. Results: The results showed that one of 60 healthcare workers (0,017%) showed MRSA, four of 60 healthcare workers (0,07%) were MSSA and 2 samples from community (0,03%) were MSSA. Total of 7 samples underwent biofilm examination, one sample was moderate biofilm, two samples were weak biofilm, and four samples were no biofilm. It was known that three biofilm-producing S.aureus were positive ica A/D gene. Conclusion: The ica A/D gene was found positive in both biofilm-producing MRSA and MSSA strain from both healthcare workers group and the healthy communities group. The presence of icaAD genes in both strains shows the potential for antibiotic resistance in these strains regulated by different mechanisms.</p>
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