

Abstract

Research Title : Evaluation of latex agglutination screening test for methicillin resistance *Staphylococcus aureus* (MRSA) isolated from cancer patients

Author : Dr. Yuttana Sudjaroen

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Aims of this study were 1) screened important gram-positive bacteria for nosocomial infection, methicillin-resistant *Staphylococcus aureus* (MRSA), which was isolated from cancer patients who , who were admitted in National Cancer Institute, Thailand during 2011 by PBP2a latex agglutination test (Oxoid Limited, Hampshire, UK) and conventional method 2) compared the efficiency between latex agglutination test and convention method and 3) determined antimicrobial susceptibility patterns of MRSA and methicillin sensitive *S. aureus* (MSSA). The results showed that main sources of *S. aureus* infection was Non-ICU (IPD) (54.3%) and main sites of *S. aureus* infection were wound, pus and tissue (57.7%). MRSA were 41.8% (87 isolates) from 208 isolates of *S. aureus*, which were screened by PBP2a latex agglutination test (sensitivity = 100%). Therefore, the sensitivity of oxacillin agar screen test (conventional method) was lower (95.4%) and implied that false negative was 4.6%. The occurrence of false negative may caused by some of *S. aureus* strains, which were produced PBP2a protein, were unable to growing on oxacillin agar. The antimicrobial resistant rates of MRSA and MSSA isolated from cancer patients were 23-100% and 0.8-95%, respectively and both groups were highly penicillin resistance (95-100%). For other antimicrobial drugs, MSSA was still low resistant rate (0.8-6.6%)

Keyword: MRSA, PBP2a, *S. aureus*, Nosocomial infection (NI), Cancer patient, latex agglutination test, Drug resistance