

INTISARI

Latar belakang: Infeksi merupakan salah satu masalah kesehatan paling besar di seluruh dunia dan menjadi penyebab kematian nomor satu di dunia. Infeksi masuk ke dalam sepuluh besar penyakit terbanyak di Indonesia dengan penyebab utama adalah bakteri. Telah banyak ditemukan bakteri resistan antibiotik salah satunya adalah *Methicillin Resistant Staphylococcus aureus* (MRSA). Penyebaran infeksi MRSA Rumah Sakit perlu dikendalikan dan diawali dari ketepatan deteksi.

Tujuan: Penelitian ini bertujuan membandingkan tingkat deteksi tiga metode pemeriksaan MRSA, yaitu metode *Cefoxitin disc diffusion* (CDD), media kromogenik (*ChromID*[®] MRSA) dan *microbroth dilution*. Selanjutnya dievaluasi kesesuaian antibiotik definitif pada infeksi MRSA.

Metode: Penelitian ini menggunakan metode observasional analitik *cross sectional* pada isolat *S.aureus* dari bahan klinis pasien rawat inap di RSUP Dr. Sardjito Yogyakarta 1 Juli 2017 – 30 Juni 2018 yang memenuhi kriteria inklusi dan eksklusi. Perbedaan tingkat deteksi MRSA di antara 3 metode dianalisis dengan uji proporsi. Kesepakatan antar metode dianalisis dengan uji *Kappa*.

Hasil: Penelitian ini menggunakan 34 isolat *S.aureus* yang memenuhi kriteria inklusi dan eksklusi. Rata-rata usia pasien $44,14 \pm 18,4$ tahun, sebagian besar laki-laki (64,70%). Tingkat deteksi MRSA metode CDD, *ChromID*[®] dan *microbroth dilution* berturut-turut adalah 67,6 %, 73,5%, 76,42% tidak berbeda bermakna ($p=0,709$). Kesesuaian deteksi MRSA metode CDD dan *ChromID*[®], CDD dan *microbroth dilution* serta *ChromID* dan *microbroth dilution* adalah baik, ditunjukkan dengan nilai indeks *Kappa* berturut-turut adalah 0,718, 0,783, dan 0,922 ($p=0,0001$). Dari 26 isolat yang terdeteksi MRSA dengan metode *microbroth dilution* yang mendapatkan antibiotik sesuai dengan tes kepekaan antibiotik sebesar 15 (57,7%) dan di antaranya mendapatkan terapi vankomisin.

Simpulan: Tingkat deteksi MRSA di antara ketiga metode pemeriksaan berturut-turut dari yang tertinggi adalah *microbroth dilution*, *ChromID*[®] MRSA dan CDD tidak berbeda bermakna. Antibiotik definitif untuk infeksi MRSA adalah 57,7% sesuai dengan uji kepekaan antibiotik.

Kata kunci: *Staphylococcus aureus*, *Methicillin Resistant Staphylococcus aureus* (MRSA), *Cefoxitin disc diffusion*, media kromogenik, *Microbroth dilution*

ABSTRACT

Background: Infection is one of the major health problems and the most common cause of death in the worldwide. In Indonesia, infection is the top ten most common diseases and bacteria is the main cause. Many antibiotic resistant bacteria have been found, one of them is *Methicillin Resistant Staphylococcus aureus* (MRSA). The spread of hospital acquired MRSA infection needs to be controlled and starting from the accuracy of detection.

Aim: This research to compare the detection rates of three MRSA examination methods, Cefoxitin disc diffusion method (CDD), chromogenic media – (ChromID[®]MRSA) and microbroth dilution. The Appropriateness of definitive antibiotic for MRSA infection were evaluated then.

Method: This was a prospective observational study using *cross sectional* design conducted on *S.aureus* isolates from in patient clinical specimens in patients at RSUP Dr. Sardjito Yogyakarta 1 July 2017 to 30 June 2018 which were met the inclusion and exclusion criteria. The difference of MRSA detection rates among the 3 methods was analyzed by proportion test. The agreement between the methods was analyzed using Kappa test.

Result: Subjects of this study were 34 *S. aureus* isolates. The mean age of the subjects was 44.14 ± 18.4 years old, mostly male (64.70%). The MRSA detection rates of the CDD, ChromID[®] MRSA and microbroth dilution methods were 67.6%, 73.5%, 76.42%, respectively, not significantly different ($p = 0.709$). The agreement of MRSA detection methods CDD and ChromID[®], CDD and microbroth dilution, ChromID and microbroth dilution are good, with the Kappa index values 0.718, 0.783, and 0.922 ($p=0,0001$). There were 26 isolates MRSA detected by the microbroth dilution method received antibiotics according to the antibiotic susceptibility test, 15 (57.7%) received vancomycin therapy.

Conclusions: The MRSA detection rate among the three examination methods, from the highest to lower were microbroth dilution, ChromID[®] MRSA and CDD not significantly different. The agreement of the detection results among the three methods was good. The definitive antibiotic for MRSA infection was 57,7% appropriate to antibiotic susceptibility test.

Keyword: *Staphylococcus aureus*, Methicillin Resistant *Staphylococcus aureus* (MRSA), Cefoxitin disc diffusion, chromogenic media, Microbroth dilution

