

Hubungan faktor risiko dan luaran klinis pasien dengan karakteristik klebsiella pneumoniae penghasil enzim beta laktamase sebagai penyebab infeksi di unit perawatan intensif RSUPN Cipto Mangunkusumo tahun 2011 = Risk factors and clinical outcomes in patients infected by beta lactamase producing klebsiella pneumoniae in intensive care unit Cipto Mangunkusumo hospital during 2011

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Abstrak

[ABSTRAK

Bakteri multi-resisten antibiotik [multidrug-resistant (MDR)] saat ini menjadi perhatian di seluruh dunia, terutama pada Klebsiella pneumoniae penghasil enzim beta laktamase. Di Indonesia, data mengenai Klebsiella pneumoniae MDR belum tersedia. Penelitian ini bersifat restrospektif untuk mengidentifikasi Klebsiella pneumoniae MDR penghasil enzim beta laktamase (ESBL, AmpC, dan karbapenemase), mengidentifikasi gen penyandi sifat resisten pada isolat yang resisten karbapenem, menganalisis faktor risiko dan menilai luaran klinis pasien yang terinfeksi oleh bakteri tersebut. Penelitian dilakukan di ICU RSUPN Cipto Mangunkusumo pada tahun 2011. Dari hasil penelitian didapatkan prevalensi Klebsiella pneumoniae penghasil ESBL 76%, penghasil AmpC 0%, dan penghasil karbapenemase adalah 43%. Ditemukan 1 isolat dengan penyandi gen resisten pada karbapenem yaitu NDM-1. Faktor risiko pasien yang berhubungan dengan infeksi oleh Klebsiella pneumoniae penghasil ESBL adalah penggunaan CVC. Infeksi oleh Klebsiella pneumoniae penghasil enzim beta laktamase dapat memengaruhi lama rawat pasien di ICU dengan selisih lama rawat 11 hari dan effect size $d = 0,4$ (efek kecil hingga sedang). Infeksi oleh Klebsiella pneumoniae penghasil enzim beta laktamase dapat memengaruhi luaran klinis pasien meskipun dengan efek kecil (ES $d = 0,2$).

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ABSTRACT

Multidrug-resistant organisms (MDRO) are being public health concern worldwide, especially for beta-lactamase producing Klebsiella pneumoniae. There is no data about multidrug-resistant Klebsiella pneumoniae in Indonesia yet. In this restrospective study we identified beta-lactamase producing Klebsiella pneumoniae (ESBL, AmpC, and carbapenemase), identified resistance encoding genes on carbapenem resistant isolates, analysed risk factors and patient?s outcomes. This study conducted in intensive care unit Cipto Mangunkusumo Hopital during 2011. Study results found 76% isolates are ESBL producing, 0% are AmpC producing, and 43% are carbapenemase producing. We found 1 isolate contain gene that encoded resistance on carbapenem resistant, namely NDM-1. Risk factor that have correlation with ESBL producing is the use of central venous catheter. Infection due to beta-lactamase producing Klebsiella pneumoniae could influence length of stay at ICU (11 days longer) and effect size (ES) $d = 0,4$ (low to medium effect). Infection due to beta-lactamase producing Klebsiella pneumoniae also could influence patient?s outcome although with low effect (ES $d = 0,2$).

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