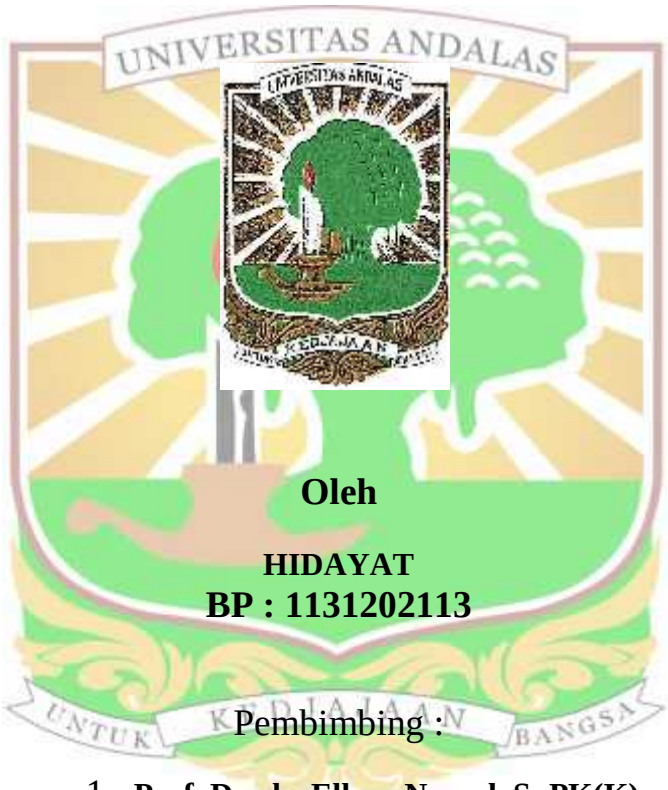
DISERTASI

HUBUNGAN ANTARA *Extended Spectrum β-lactamase*, VARGEN blaTEM,blaSHV, blaCTX, OmpK35 dan OmpK36 DENGAN RESISTENSI BAKTERI *Klebsiella pneumoniae*



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2017

ABSTRAK

HUBUNGAN ANTARA Extended *Spectrum β-Lactamase*, VAR GEN blaTEM, blaCTX, blaSHV, OmpK35 dan OmpK36 DENGAN RESISTENSI BAKTERI *Klebsiella pneumoniae*

Hidayat

Resistensi bakteri terhadap antibiotik masih menjadi masalah kesehatan di dunia maupun di Indonesia. Salah satunya adalah bakteri yang termasuk penghasil *Extended Spectrum betalactamase*. Telah dilakukan penelitian untuk mengetahui hubungan keberadaan *Extended spectrum β-lactamase* (ESBL), var gen blaTEM, blaCTX, blaSHV dan OmpK35 dan OmpK36 dengan resistensi bakteri *Klebsiella pneumoniae*.

Isolasi bakteri dilakukan pada sampel klinis dan diuji terhadap berbagai jenis antibiotik, dilakukan uji penghasil ESBL dan dilakukan deteksi var gen blaTEM, blaCTX, blaSHV, gen OmpK35 dan OmpK36. Hubungan antara masing-masing variabel diuji secara statistik dengan menggunakan uji Chi-Square dengan kemaknaan ditentukan jika nilai $p \leq 0,05$

Hasil penelitian menunjukkan resistensi bakteri *Klebsiella pneumonia*e di RSUD Dr. Hi.Abdul Moeloek tertinggi terhadap antibiotik golongan penisilin (amoksisilin dan ampisilin) serta sebagian terhadap golongan sefalosporin. Prevalensi gen ESBL terbanyak adalah blaSHV, dengan hasil uji statistik menunjukkanbahwa gen blaTEM dan blaCTX lebih berhubungan secara bermakna terhadap terjadinya resistensi terhadap antibiotik ($p<0,05$) dan tidak ada hubungan bermakna antara gen OmpK35 dan OmpK36 dengan resistensi bakteri *Klebsiella pneumoniae.*

Kesimpulan pada penelitian ini bahwa ESBL, var gen blaTEM dan blaCTX merupakan faktor utama penyebab terjadinya resistensi *Klebsiella pneumoniae* terhadap antibiotik betalaktam. Sedangkan gen OmpK35 dan OmpK36 tidak menentukan resistensi bakteri ini.

Kata kunci :*Klebsiella pneumoniae*, resistensi, ESBL, var gen blaTEM, blaCTX, blaSHV, OmpK35, OmpK36

ABSTRACT

THE RELATIONSHIP BETWEEN Extended Spectrum β-Lactamase , VAR GEN blaTEM, blaCTX, blaSHV, OmpK35 AND OmpK36 GENES WITH RESISTANCE OF Klebsiella pneumoniae

Bacterial resistant was still the problem of health in the world and Indonesian. Of of the causing is bacterial producing Extended spectrum betalactamase enzymes. Research has been conducted to determined the relationship between Extended spectrum betalactamase (ESBL), var blaTEM, blaCTX, blaSHV genes, and OmpK35 and OmpK36 outer membrane proteins with antibiotics resistant of Klebsiella pneumoniae.

Bacterial isolates were found from clinical samples and were examined to varying of antibiotics, ESBL producing test, and detection of blaTEM, blaCTX, blaSHV, OmpK35 and OmpK36 genes. Statistical analysis used chi-square test was done to known the relationship between variables each other. Significancy was determined if p value ≤ 0,005.

Results of this study shown the highest resistant of Klebsiella pneumoniae to penicillins groups (ampicillin and amoxycilin) and half of cephalosporines groups. The most prevalence of ESBL genes was blaSHV genes. All of them, blaTEM and blaCTX genes were more significant correlated to antibiotics resistance (p<0,05) and no significancy correlation between OmpK35 and OmpK36 genes to antibiotics resistance of Klebsiella pneumoniae.

The conclusion of this study, ESBL, blaTEM and blaCTX var genes were risk factors to antibiotic resistance of Klebsiella pneumoniae but no for OmpK35 and OmpK36 genes.

Key words: *Klebsiella pneumoniae, resistance, ESBL, var gen blaTEM, blaCTX, blaSHV, OmpK35, OmpK36*