

INTISARI

KARAKTERISTIK BIOKIMIA *ACINETOBACTER BAUMANNII* PENGHASIL *EXTENDED SPECTRUM BETA-LACTAMASES* (ESBLs) PADA ISOLAT KLINIS DAN LINGKUNGAN RSUP DR. SOERADJI TIRTONEGORO KLATEN

Latar Belakang: *Acinetobacter baumannii* (*A. baumannii*) merupakan salah satu patogen yang sering menyebabkan terjadinya infeksi nosokomial serta sudah banyak mengalami resistensi terhadap antibiotik. Faktor lingkungan juga mempengaruhi terjadinya infeksi nosokomial serta dapat menjadi sumber dari penyebaran infeksi tersebut.

Tujuan: Mengetahui gambaran *A. baumannii* penghasil *extended spectrum beta-lactamases* (ESBL) pada isolat klinis dan lingkungan RSUP Dr. Soeradji Tirtonegoro Klaten. Mengetahui perbedaan karakteristik biokimi antara *A. baumannii* penghasil ESBL dan non ESBL maupun antara *A. baumannii* isolat klinis dan lingkungan RSUP Dr. Soeradji Tirtonegoro Klaten.

Metode: Penelitian ini menggunakan metode deskriptif eksperimental dengan menggunakan sampel *A. baumannii* yang diambil dari pasien serta lingkungan sekitar pasien rawat inap Ruang Perawatan Intensif Anak RSUP Dr. Soeradji Tirtonegoro Klaten dan stok isolat bakteri di Departemen Mikrobiologi FK UGM. Proses identifikasi *A. baumannii* dilakukan dengan uji oksidase dan alat BD Phoenix. Identifikasi tipe *A. baumannii* penghasil ESBL menggunakan uji screen disk ESBL + AmpC sedangkan karakteristik biokimiawi didapatkan dengan alat BD Phoenix.

Hasil: Empat isolat lingkungan dari 16 isolat klinis dan lingkungan merupakan *A. baumannii* penghasil ESBL. *A. baumannii* penghasil ESBL dan non ESBL maupun *A. baumannii* isolat lingkungan dan isolat klinis mampu memberikan reaksi positif terhadap sitrat dan dekstrosa serta memberikan reaksi negatif terhadap D-manitol, sukrosa, L-rhamnose, ornitin, urea, esculin, arginine, dan lysine.

Kesimpulan: Tidak didapatkannya perbedaan karakteristik biokimia antara *A. baumannii* penghasil ESBL dan *A. baumannii* penghasil non ESBL maupun pada *A. baumannii* isolat klinis dan lingkungan. Ditemukannya *A. baumannii* penghasil ESBL pada isolat lingkungan.

Kata Kunci: *Acinetobacter baumannii*, ESBL, karakteristik biokimiawi, uji screen disk ESBL + AmpC.

ABSTRACT

BIOCHEMICAL CHARACTERISTICS OF *ACINETOBACTER BAUMANNII* EXTENDED SPECTRUM BETA-LACTAMASES (ESBLs) PRODUCER IN CLINICAL ISOLATES AND ENVIRONMENT ISOLATES RSUP DR. SOERADJI TIRTONEGORO KLATEN

Background: *Acinetobacter baumannii* (*A. baumannii*) is one of the most common pathogens that cause nosocomial infection and also resistance to antibiotics. Environmental factors affect the occurrence of nosocomial infections and sometimes becomes the source of the spread of the infection.

Objective: To determine the description of *A. baumannii* producing extended spectrum beta-lactamases (ESBL) in clinical and environment isolates of RSUP Dr. Soeradji Tirtonegoro Klaten. To know the differences of biochemical characteristics between *A. baumannii* ESBL producers and non ESBL producer and also between *A. baumannii* from clinical isolates and environmental isolates of RSUP Dr. Soeradji Tirtonegoro Klaten.

Methods: This study used an experimental descriptive method using *A. baumannii* isolates which taken from patients and the environment around inpatient wards PICU RSUP Dr. Soeradji Tirtonegoro Klaten and isolates' stock of bacterial isolate in the Department of Microbiology FK UGM. The identification process of *A. baumannii* was done by oxidase test and BD Phoenix tool. Identification *A. baumannii* ESBL producer was determined using ESBL + AmpC screen test while biochemical characteristics were determined with BD Phoenix tool.

Results: Four environment isolates of 16 clinical and environment isolates used were *A. baumannii* ESBL producers. *A. baumannii* ESBL producers and non ESBL producers also *A. baumannii* from clinical isolates and environment isolates give positive reaction to citrate and dextrose and give negative reaction to D-mannitol, sucrose, L-rhamnose, ornithine, urea, esculin, arginine, and lysine.

Conclusion: No biochemical characteristic difference between *A. baumannii* ESBL producer and *A. baumannii* non ESBL producers also *A. baumannii* from clinical isolates and environment isolates. *A. baumannii* ESBL producer were found in environment isolates.

Keywords: *Acinetobacter baumannii*, ESBL, biochemical characteristics, ESBL + AmpC screen test.