

ANTIMICROBIAL SUSCEPTIBILITY PATTERN AND DISTRIBUTION OF *exoU* AND *exoS* IN CLINICAL ISOLATES OF *PSEUDOMONAS AERUGINOSA* AT A MALAYSIAN HOSPITAL

Siti Nur Atiqah Idris¹, Mohd Nasir Mohd Desa^{2,3}, Muhammad Nazri Aziz⁴
and Niazlin Mohd Taib¹

¹Department of Medical Microbiology and Parasitology, ²Department of Biomedical Sciences, Faculty of Medicine and Health Sciences, Universiti Putra Malaysia, Selangor; ³Halal Products Research Institute, Universiti Putra Malaysia, Selangor; ⁴Microbiology Unit, Pathology Department, Hospital Kuala Lumpur, Malaysia

Abstract. This study was conducted to determine the antibiotic susceptibility pattern and distribution of *exoU* and *exoS* among 44 clinical isolates of *P. aeruginosa* collected from different patients over a 3-month period in 2010 at a major Malaysian hospital. Susceptibility data by disk diffusion method for cefepime (30 g), ceftazidime (30 g), gentamicin (10 g), piperacillin-tazobactam (100/10 g) and ciprofloxacin (5 g) were available for 38 isolates. Resistance to ceftazidime and piperacillin-tazobactam was the most common (74%) with five isolates not susceptible to three or more different antibiotics. PCR detection of *exoU* and *exoS* of all 44 isolates showed the former gene to be present in 18 and *exoS* in 41. In analyzing the two genes together, 17 isolates were detected for *exoU* and *exoS* with only two being negative for both genes. Only one isolate was detected for *exoU* alone whereas 24 for *exoS* alone. Distribution of the genes in relation to antibiotic susceptibility was inapplicable due to the majority of the isolates having similar susceptibility patterns, but the tendency of *exoU*-carrying isolates to be present in male patients (83%) and respiratory sites (61%) was observed ($p < 0.050$). The finding warrants further investigation in a larger sample of isolates.

Key words: *Pseudomonas aeruginosa*, antibiotic susceptibility, *exoU*, *exoS*

Correspondence: Dr Niazlin Mohd Taib,
Department of Medical Microbiology and
Parasitology, Faculty of Medicine and Health
Sciences, Universiti Putra Malaysia, 43400 UPM
Serdang, Selangor, Malaysia.
Tel: +0603 89472356; Fax: +0603 89413802
E-mail: niazlin@medic.upm.edu.my