抗藥性鮑式不動桿菌對ciprofloxacin及imipenem之抗藥性機制分析

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摘 要

多重抗藥性的鮑氏不動桿菌（multidrug-resistant Acinetobacter baumannii, MDRAB）所造成的感染日益增加，已成為重要的院內感染致病菌。目前在林口長庚醫院篩選出35株臨床分離菌株，經由real-time quantitative PCR（及時定量聚合?鏈鎖反應）分析藥物輸出幫浦Ade drug transporter的表現，發現與抗生素ciprofloxacin及ampicillin-sulbactam之抗藥性有高度的相關性。進一步以ciprofloxacin抗藥菌株AB-1227分析抗生素的影響，及啟動菌株中排出藥物的基因，結果則顯示Ade drug transpoter為持續性的表現，但此現象的原因未明。而基因突變的分析中，則發現gyrA及parC的突變與A. baumannii對ciprofloxacin造成之抗藥性有關，如果菌株同時有藥物輸出的能力，將會進而增加其抗藥性。另外在對imipenem抗藥基因的分析方面，35株臨床菌株中有8株帶有blaIMP-1，且基因片匣（gene cassette）中所攜帶的抗藥基因其排列組合分別為：5''CS-blaIMP-1-aadA4-3''CS，5''CS- aacA4-aadA1-3''CS，及5''CS-aacC1- aadA1-3''CS。此外，所有菌株皆不帶有抗藥基因blaVIM-1 或blaVIM-2。這些基因片匣中帶有多種不同之抗藥基因，其中一類還帶有blaIMP-1；先前的研究曾顯示，blaIMP-1之抗藥基因會以基因片匣的方式存在於細菌的質體中，而細菌間質體之轉移則可造成抗藥基因之傳播。綜合結果顯示，造成A. baumannii之多重抗藥性的原因乃是透過多種抗藥機制，很可能是細菌適應外界環境的改變而演化的結果。

關鍵詞 : 多重抗藥性鮑氏不動桿菌，及時定量聚合?鏈鎖反應，藥物輸出幫浦，抗藥基因，ciprofloxacin

目錄

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