

论著

43株临床铜绿假单胞菌 *exoS*、*exoU* 基因的携带及其耐药性 FREE

董晨晓¹, 宋诗铎¹, 王悦¹, 门昆²

1 天津医科大学第二医院感染性疾病研究所, 天津 300211; 2 天津医科大学第二医院, 天津 300211

摘要:

目的 研究43株临床分离的铜绿假单胞菌III型分泌系统毒素基因 *exoS*、*exoU* 携带情况以及细菌的耐药性。方法 采用聚合酶链反应(PCR)法检测毒素基因的分布, K B纸片扩散法检测细菌的耐药性。结果 43株临床铜绿假单胞菌中, 37株(86.05%) *exoS* 基因阳性, 6株(13.95%) *exoU* 基因阳性, 无同时携带2种基因菌株。携带 *exoU* 的临床株对9种抗菌药物的耐药率均高于携带 *exoS* 菌株, 其中对头孢他啶、环丙沙星、左氧氟沙星的耐药率差异有显著性 ($P < 0.05$)。结论 携带毒素基因 *exoU* 的铜绿假单胞菌临床株所占比例较低, 但耐药率高。

关键词: 铜绿假单胞菌; III型分泌系统; 毒素基因; *exoS*; *exoU*; 抗药性; 微生物

Carrying of *exoS* and *exoU* in 43 clinical isolates of *Pseudomonas aeruginosa* and their drug resistance FREE

DONG Chen xiao¹, SONG Shi duo¹, WANG Yue¹, MEN Kun²

1 Institute of Infectious Diseases, the Second Hospital of Tianjin Medical University, Tianjin 300211, China; 2 the Second Hospital of Tianjin Medical University, Tianjin 300211, China

Abstract:

Objective To study the carrying of type III secretion systems toxin gene *exoS* and *exoU* in 43 clinical isolates of *Pseudomonas aeruginosa* (*P. aeruginosa*) and drug resistance. Methods The distribution of toxin gene was detected by PCR, antimicrobial resistance of clinical strains was detected by Kirby Bauer method.

Results Each *P. aeruginosa* isolate contained either *exoS* or *exoU* gene, *exoS* and *exoU* was harbored by 37(86.05%) and 6(13.95%) isolates respectively. Resistant rates of *exoU* harbouring isolates to 9 kinds of antimicrobial agents were higher than *exoS* harbouring isolates, and there were significant difference in resistance to ceftazidime, ciprofloxacin and levofloxacin between *exoU* and *exoS* harbouring isolates ($P < 0.05$).

Conclusion *exoU* harbouring isolates are far less than *exoS* harbouring isolates, and *exoU* harbouring isolates appear high drug resistance.

Key words:

Pseudomonas aeruginosa type III secretion systems toxin gene *exoS* *exoU* drug resistance, micro

收稿日期 2009-09-08 修回日期 2009-11-18 网络版发布日期 2010-03-30

DOI:

基金项目:

通讯作者: 宋诗铎

作者简介: 董晨晓(1978-), 男(汉族), 河北省泊头市人, 医师, 主要从事细菌耐药与致病性研究。

作者Email: shiduosong1@yahoo.com.cn

参考文献:

[1] █ [[ZK (#)] Coburn B, Sekirvo I, Finlay B B .Type III secretion systems and disease [J] .Clin Microbiol Rev, 2007,20(4): 535-549.

[2] █ Feltman H, Schulert G, Khan S , et al . Prevalence of type III secretion genes in clinical and

扩展功能

本文信息

▶ Supporting info

▶ PDF(885KB)

▶ [HTML全文]

▶ 参考文献PDF

▶ 参考文献

服务与反馈

▶ 把本文推荐给朋友

▶ 加入我的书架

▶ 加入引用管理器

▶ 引用本文

▶ Email Alert

▶ 文章反馈

▶ 浏览反馈信息

本文关键词相关文章

铜绿假单胞菌; III型分泌系统; 毒素基因; *exoS*; *exoU*; 抗药性; 微生物

本文作者相关文章

PubMed

- environmental isolates of *Pseudomonas aeruginosa* [J] . Microbiology ,2001, 147(8):2659-2669.
- [3] Pitout J, Thmoson K S, Hanson N D, et al . Plasmid mediated resistance to expanded spectrum cephalosporins among *Enterobacter aerogenes* strains [J] . Antimicrob Agent Chemother, 1998,42(3):596-600.
- [4] Ferguson M W, Maxwell J A, Vincent T S, et al . Comparison of the *exoS* gene and protein expression in soil and clinical isolates of *Pseudomonas aeruginosa* [J] . Infect Immun, 2001, 69(4):2198-2210.
- [5] Escaich S. Antivirulence as a new antibacterial approach for chemotherapy [J] . Curr Opin in Chemical Biol, 2008, 12(4):400-408.
- [6] Hauser A R, Cobb E, Bodi M, et al . Type III protein secretion is associated with poor clinical outcomes in patients with ventilator associated pneumonia caused by *Pseudomonas aeruginosa* [J] . Crit Care Med, 2002 ,30(3):521-528.
- [7] Clatworthy A E, Pierson E, Hung D T .Targeting virulence: a new paradigm for antimicrobial therapy [J] . Nature Chem Biol ,2007,3(9):541-548.
- [8] Wong Beringer A, Wiener Kronish J, Lynch S, et al . Comparison of type III secretion system virulence among fluoroquinolone susceptible and resistant clinical isolates of *Pseudomonas aeruginosa* [J] .Clin Microbiol Infect, 2008,14(4):330-336.

本刊中的类似文章