[1]尚伟龙,胡启文,胡珍,等.重庆地区耐甲氧西林金黄色葡萄球菌主要流行克隆更替的机制研究[J].第三军医大学学报,2014,36(08):735-739.
Shang Weilong,Hu Qiwen,Hu Zhen,et al.Mechanisms in replacement of major methicillin-resistant Staphylococcus aureus epidemic clones in Chongqing[J].J Third Mil Med Univ,2014,36(08):735-739.

重庆地区耐甲氧西林金黄色葡萄球菌主要流行克隆

《第三军医大学学报》[ISSN:1000-5404/CN:51-1095/R] 卷: 36 期数: 2014年第08期 页码: 735-739
栏目: 论著 出版日期: 2014-04-30

Title: Mechanisms in replacement of major methicillin-resistant *Staphylococcus aureus* epidemic clones in Chongqing

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关键词: 耐甲氧西林金黄色葡萄球菌; 克隆替代; 生长曲线; 利福平耐药; 复方新诺明耐药

Keywords: methicillin-resistant *Staphylococcus aureus*; clonal replacement; growth curve; rifampicin-resistance; sulfamethoxazole-resistant

分类号: R373; R378.11; R915

文献标志码: A

摘要: 目的 探讨重庆地区耐甲氧西林金黄色葡萄球菌菌株ST239-MRSA-III-t030替代ST239-MRSA-III-t037克隆的机制。 方法 选择重庆地区分离的ST239-MRSA-III-t030和ST239-MRSA-III-t037临床株，检测各菌株的生长曲线，观察菌落形态，分析菌株的药物敏感谱；再通过体外、体内竞争实验和交叉抑制实验深入探讨ST239-MRSA-III-t030 替代ST239-MRSA-III-t037 的机制。 结果 ST239-MRSA-III-t030菌株较ST239-MRSA-III-t037有更短的生长迟缓期，后者在固体培养基上生长的菌落相对较小，且都对复方新诺明耐药，对利福平敏感，这与ST239-MRSA-III-t030菌株不同（大多数对复方新诺明敏感，对利福平都耐药）。ST239-MRSA-III-t030菌株在体外和体内都表现出比ST239-MRSA-III-t037菌株更强的生存竞争优势，但两克隆的菌株间并不存在明显的交叉抑制现象。 结论 ST239-MRSA-III-t030克隆的生存竞争优势和独特的耐药表型可能是其成功替代ST239-MRSA-III-t037而成为第一流行克隆的原因。

Abstract: Objective To explore the mechanisms underlying the replacement of methicillin-resistant *Staphylococcus aureus* (MRSA) straim ST239-MRSA-III-t037 by ST239-MRSA-III-t030 in Chongqing, China. Methods Eight ST239-MRSA-III-

t030 and ST239-MRSA-III-t037 isolates collected from Chongqing were divided into four t030/t037 pairs. The independent growth rates of all isolates were then determined. The competitive growth rates of the bacterial pairs were detected *in vitro* and *in vivo*, and cross inhibition assays were also performed. Results The ST239-MRSA-III-t030 isolates were rifampicin-resistant, whereas the ST239-MRSA-III-t037 strains were all rifampicin-sensitive and trimethoprim/sulfamethoxazole-resistant. The ST239-MRSA-III-t030 strains had shorter lag phases than the ST239-MRSA-III-t037 isolates. The ST239-MRSA-III-t030 strains could out-compete their rivals in a competition assay *in vitro* as well as in a mouse model. No significant cross-inhibition effect was observed between ST239-MRSA-III-t030 and ST239-MRSA-III-t037. The growth of ST239-MRSA-III-t037 strains on the BHI nonselective plates had smaller colonies as compared to ST239-MRSA-III-t030 strains. Conclusion ST239-MRSA-III-t030 replacing ST239-MRSA-III-t037 as the first predominant clone may result from its higher growth rate and the specific drug resistance profiles.

参考文献/REFERENCES:

尚伟龙, 胡启文, 胡珍, 等. 重庆地区耐甲氧西林金黄色葡萄球菌主要流行克隆更替的机制研究[J].第三军医大学学报,2014,36(8):735-739.

相似文献/REFERENCES:

[1]程航,曾方银,胡启文,等.广州地区耐甲氧西林金黄色葡萄球菌的分子分型及耐药性分析[J].第三军医大学学报,2013,35(08):696.
Cheng Hang,Zeng Fangyin,Hu Qiwen,et al.Molecular typing and antimicrobial susceptibility of methicillin-resistant Staphylococcus aureus isolated from Guangzhou, China[J].J Third Mil Med Univ,2013,35(08):696.
[2]姜珂,覃容欣,朱仝飞,等.山楂活性组分与β-内酰胺类抗生素的联合抑菌作用[J].第三军医大学学报,2009,31(19):1887.
JIANG Ke,QIN Rong-xin,ZHU Tong-fei,et al.Antibacterial activity of active component of Crataegus pinnatifida combined with ß-Lactam antibiotics against methicillin-resistant Staphylococcus aureus in vitro[J].J Third Mil Med Univ,2009,31(08):1887.
[3]杨晏,李科,王忠诚.荧光定量聚合酶链反应检测耐甲氧西林金黄色葡萄球菌mecA基因的表达水平及临床应用[J].第三军医大学学报,2013,35(16):1758.