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论文

大鼠牙周炎牙龈卟啉单胞菌毒力调节基因变化

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摘要：

目的 观察大鼠实验性牙周炎发生发展过程中牙龈卟啉单胞菌毒力调节基因A(virulence modulatinggene A,vim A)相对含量的变化。方法 采用正畸钢丝结扎双上颌第一磨牙颈部、局部牙龈剥离、细菌灌饲及高糖饮水的方法,建立大鼠实验性牙周炎模型。分别在4周和8周取上颌第一磨牙龈下菌斑,提取细菌DNA,应用PCR方法进行牙龈卟啉单胞菌vim A特异引物PCR扩增,应用SPSS 11.0统计软件包,分析大鼠牙周炎不同时段牙龈卟啉单胞菌、vim A相对含量变化。结果 实验性牙周炎模型大鼠龈下菌斑中牙龈卟啉单胞菌4周和8周相对含量分别为66.3%和81.2%,明显高于对照组,8周组高于4周组;vim A相对含量在4周组和8周组分别为58.7%和62.4%,明显高于对照组,4周组和8周组vim A相对含量无明显差异。结论 牙龈卟啉单胞菌vim A基因与牙周炎的发生密切相关,与牙周炎严重程度可能无关。

关键词： 牙周炎 牙龈卟啉单胞菌 毒力调节基因A

Porphyromonas gingivalis vim A in experimental periodontitis in rats

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Abstract:

Objective To examine the relative content changes of *Porphyromonas gingivalis*(P.gingivalis)inoculated to subgingival of first maxillary molars of the rats in different times and the changes of virulence modulating gene A (vim A)by establishing the rat periodontitis model.Methods We established a rat experimental periodontitis model by ligaturing orthodontic steel wire and feeding bacteria.The subgingival plaque was collected,then the DNA was extracted and amplified with PCR using specific primer.We analyzed the genetic changes of vim A in different stages of the rat periodontitis using SPSS11.0 with two independent t test.Results The relative contents of *P.gingivalis* of experimental group in 4 weeks and 8 weeks were significantly different and obviously higher than those of the control group,while the relative contents of vim A for both of the experimental group and healthy controls increased.Conclusion Vim A gene may relate to the pathogenicity of periodontitis,but have no direct effect on the severity of periodontal disease.

Keywords: periodontitis *Porphyromonas gingivalis* vim A

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参考文献：

[1] 姜红,姜广水.大学生口腔健康认知及行为影响因素分析.[J] 中国公共卫生,2011,27(9):1181-1183.
[2] 张玉杰,郭杨,张瑾,等.多重PCR技术用于检测牙龈卟啉单胞菌致病岛rag基因的研究[J].中国实用口腔科杂志,2011,4 (9):546-549.
[3] Lamont RJ.Controlling Porphyromonas gingivalis requires Vim [J].Microbiology,2010,156(7):1907-1908.
[4] 方怡,黄文杰,刘志红,等.反相杂交技术在常见社区获得性肺炎致病菌基因诊断研究中的应用[J].广东医

学,2003,24(6): 591-592.
[5] 赵蕾,吴亚菲,杨禾,等.不同Vim A基因型牙龈卟啉单胞菌在牙周健康人群中的分布[J].口腔医学,2007,27(11):565-568.
[6] Vanterpool E,Roy F,Zhan W,et al.Vim A is part of the maturation pathway for the major gingipains of Porphyromonas gingivalis W 83[J].Microbiology,2006,152(11):3383-3389.
[7] 王者玲,岗本公彰,杨圣辉,等.PCR直接检测龈下菌斑主要可疑牙周致病菌[J].中国微生态学杂志,2003,15(2):115-116.
[8] Abaibou H,Chen Z,Olango GJ,et al.vim A gene downstream of recA is involved in virulence modulation in Porphyromonas gingivalis W 83[J].Infect Immun,2001,69(1):325-335.
[9] Vanterpool E,Roy F,Fletcher HM.The vim E gene downstream of vim A is independently expressed and is involved in modulating proteolytic activity in Porphyromonas gingivalis W 83[J]. Infect Immun,2004,72(10):5555-5564.
[10] Osbourne DO,Aruni W,Roy F,et al.Role of vim A in cell surface biogenesis in Porphyromonas gingivalis[J].Microbiology, 2010,156(7):2180-2193.

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