

Investigation on Interaction Between *Streptococcus sanguis* and *Porphyromonas gingivalis* in Specific Pathogen-free Rats

Zhou Cun, Zhang Jincai, Wu Bo, et al

Department of Periodontology, College of Stomatology, West China University of Medical Sciences

Abstract

Objective: To examine whether endogenous *S. sanguis* could prevent, or reduce the colonization of the virulent *P. gingivalis* strain. **Methods:** First, 10 specific pathogen-free Wistar rats were divided into 2 groups. Doxycycline was administered in the drinking water for 7 days. Successful implantation of the endogenous strain of *S. sanguis*, isolated from one of the rats before doxycycline administration, and *P. gingivalis* 381 within 14 days of observation were demonstrated in the rats of each group respectively. Then, 30 SPF rats were divided into 6 groups. Doxycycline was administered in the drinking water for 7 days to all the rats. Afterwards, the rats in group A and B were inoculated orally once a day for 5 days with *P. gingivalis*, the rats in group C and E were inoculated orally once a day for 5 days with *S. sanguis*. Then, the rats in group A were inoculated for 5 days with *S. sanguis*, and rats in group C and D were inoculated for 5 days with *P. gingivalis*. The rats in group F served as negative control. After inoculation, the levels of *S. sanguis* and *P. gingivalis* in the mouths of the rats were determined after 12, 24, 36 hours, 7 days and 14 days. **Results:** Both pre-colonization of *S. sanguis* and superinfection with *S. sanguis* did reduce the level of *P. gingivalis* in experimental rats. However, the reduction only maintained quite short time, about 36 hours. It was not caused by the decreased level of *S. sanguis* after 36 hours because the level of *S. sanguis* kept stable during the observation period of 14 days. **Conclusion:** That *S. sanguis* function as the effector strain requires the successful implantation of *S. sanguis* as well as *S. sanguis* producing antagonistic action efficiently in vivo.

Key words: *Streptococcus sanguis* *Porphyromonas gingivalis* replacement therapy SPF rats

• 方法介绍 •

双胶片 X 线投照技术显示软硬组织侧貌

王学侠 姬广国 汤庆奋 刘 军

随着正畸诊断和矫治技术的不断提高,人们日益注重矫治前后软组织侧貌的改变。一些先进的头颅侧位定位投照设备有特殊的 X 线滤过装置,能使软硬组织较清晰地显示在一张头颅侧位片上,以便进行临床研究和矫治前后对照。多数基层医院没有相应的设备,常规的 X 线投照技术和冲洗技术仅能清晰地显示硬组织解剖结构,不能同时显示软组织的影像。在此,作者介绍能够同时显示头颅部软硬组织结构的胶片 X 线投照技术,操作简单,效果良好,较适合基层医院使用。

应用普通 X 线机(可拍胸片)和简易头颅定位仪。在胶片盒中放置2张 X 线片,采用标准技术投照。1张 X 线片按常规方法冲洗,能清晰显示头颅侧位硬组织解剖结构。另1张 X 线片则缩短显影时间,约显影5~10 s,如此能得到口唇、鼻部、颈部软组织轮廓清晰,而硬组织解剖结构不甚清晰的 X 线片。描图时将两张 X 线片重叠即可。

(1998-12-30收稿)

作者单位: 271126 山东莱芜钢铁总厂医院口腔正畸科