♦025

IL-6 and IL-10 in experimentally induced rat pulpal inflammation

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IL-6 and IL-10 are known to be inflammatory cytokines that mediate host response to invading microorganisms or pathogenic antigen. But the roles of these cytokines in pulpal inflammation are not well established. The objective of this study was to investigate the concentrations and the roles of IL-6 and IL-10 in the pulpal inflammation associated with gram-negative bacteria, P. nigrescens. We exposed the pulps of rat mandibular incisors and inserted sterile cotton in control groups and inoculated P. nigrescens in experimental groups. After 1, 2 and 5 days, the teeth were extracted and pulp tissues were removed. Concentrations of IL-6 and IL-10 were measured by ELISA and data were analyzed by Mann Whitney rank sum test.

concentrations		Mean Conc ± S.D(pg/μg protein)		
		1 st day	2nd day	5 th day
IL-6	Control (n=27)	0.368(±0.143)	0.421(±0.183)	0.605(±0.193)
	Experimental (n=31)	0.585(±0.240)	0.588(±0.255)	0.778(±0.321)
IL-10	Control (n=26)	0.033(±0.012)	0.067(±0.013)	0.055(±0.027)
	Experimental (n=24)	0.066(±0.022)	0.072(±0.021)	0.069(±0.020)

The concentrations of interleukin-6 in Prevotella nigrescens groups were higher than those in the control groups on the 1st ($P<0.05$), 2nd, and 5th day of pulpal irritation. The concentrations of interleukin-10 in Prevotella nigrescens groups were higher than those in the control groups on the 1st ($P<0.05$), 2nd, and 5th day of pulpal irritation. IL-10 to IL-6 ratios (IL-10/IL-6) were higher on the 2nd day compared to 1st day in the control groups ($P<0.05$) and Prevotella nigrescens groups. The concentrations of IL-6 were significantly higher than IL-10 in all Prevotella nigrescens groups and control groups. ($P<0.05$) The higher concentrations of interleukin-6 and interleukin-10 in Prevotella nigrescens groups than those in the control groups suggest that Prevotella nigrescens may have a role in developing pulpal inflammation by stimulating the production of IL-6 and IL-10.

♦026

DETECTION OF BLACK-PIGMENTED BACTERIA IN INFECTED ROOT CANALS

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Black-pigmented bacteria anaerobes have been implicated in the endodontic infections. This group of microorganisms includes Porphyromonas endodontalis, Porphyromonas gingivalis, Prevotella intermedia, and Prevotella nigrescens. The organisms display a wide variety of virulence factors that may be pertinent to acute endodontic infections.

The aim of this study was to identify P. endodontalis, P. gingivalis, P. intermedia, P. nigrescens by using special potency disk test, filter paper spot test, 16S rRNA gene-directed PCR, and API 32A.

Microbial samples were collected from root canals of 33 intact teeth with necrotic pulp and/or apical periodontitis. Conventional laboratory methods were used for identification of the strains of black pigmented bacteria anaerobes. Eighteen of 33 (54.5%) samples were positive for the growth of black-pigmented bacrteria. Five colonys were cultured from each pure cultured colonies from Brucella agar plate. 77 colony were positive for the growth of black-pigmented bacteria.

33 of 77 (42.6%) were identifed as P. nigrescens, 10 of 77 (12.9%) were P. gingivali 6 of 77 (7.8%) were P. endodontalis, and 10 of 77 (12.9%) was P. intermedia.

On the contrary the reference strains of P. nigrescens, experimental strains of P. nigrescens was sensitive to kanamycin in special potency disk test.

16S rRNA gene PCR and API test after rapid presumptative identification methods, such as special potency disk test and filter