● 치주병소내 염증세포의 분포에 관한 병리조직학적 연구

정순준 · 권영혁 · 이만섭
경희대학교 치과대학 치주과학교실

저자는 치주질환 병소내의 염증세포 분포와 치주질환과의 관계를 규명하고자 정상치은, 치은염, 성인형 치주염, 급속진행형 치주염 그리고 국소유년형 치주염 환자의 치은조직 30례를 생검하여 상피직하부 결합조직 부위의 단위면적당 염증세포의 수와 임파구, 형질세포, 다형핵백혈구 및 대식세포의 분포를 광학현미경을 이용하여 관찰한 결과 다음과 같은 결론을 얻었다.

1. 정상치은의 결합조직에서는 소수의 염증세포가 산재되어 나타났으며 염증세포중 임파구는 85.00%, 형질세포는 11.90%, 다형핵백혈구는 1.47%, 대식세포는 1.28%의 분포를 보였다.
2. 치은염 병소의 결합조직에서는 중등도의 염증세포의 침윤이 나타났으며 염증세포중 임파구는 62.60%, 형질세포는 33.91%, 다형핵백혈구는 1.450%, 대식세포는 1.74%의 분포를 보였다.
3. 성인형 치주염 병소의 결합조직에서는 중증의 치밀한 염증세포의 침윤이 나타났으며 염증세포중 형질세포는 75.50%, 임파구는 20.40%, 다형핵백혈구는 1.70%, 대식세포는 2.20%의 분포를 보였다.
4. 급속진행형 치주염 병소에서는 중증의 치밀한 염증세포의 침윤이 나타났으며 염증세포중 형질세포는 80.20%, 임파구는 14.80%, 다형핵백혈구는 2.20%, 대식세포는 2.58%의 분포를 보였다.
5. 국소유년형 치주염 병소에서는 중등도의 염증세포의 침윤이 나타났으며 염증세포중 임파구는 56.20%, 형질세포는 40.09%, 다형핵백혈구는 1.50%, 대식세포는 2.00%의 분포를 보였다.

● 치주질환 병인균의 항원교차 반응에 관한 연구

김강주 · 이상철 · 정종평
서울대학교 치과대학 치주과학교실

치주질환 병인균의 상호 교차반응을 규명하고자 간접 면역 형광법을 시행하여 주요한 병인균간의 항원교차반응을 관찰한 결과 *Prevotella intermedia*가 *Eikenella corrodens, Actinomyces viscosus* 및 *Actinomyces naeslundii*와 부분적인 동일성을 보이고, *Fusobacterium nucleatum*은 *Bacteroides forsythus*에 약간 교차반응을 보이며, *Wolinella recta*는 *Eikenella corrodens*와 *Actinomyces naeslundii*에 부분적인 동질성을 보였으며, *Eikenella corrodens*는 *P. gingivalis, Volinella recta, Actinomyces viscosus* 및 *Acitinomyces naeslundii*에 부분적인 동질성을 보였다. 또한, *Actinomyces viscosus* 및 *Actinomyces naeslundii*는 서로간에 미약한 교차반응을 보였으며, *Wolinella recta*에 약한 반응과 *Eikenella recta*에 부분적인 교차반응을 보였다.

The observed results were as follows :

1. The PDGF group showed the concentration-dependent increment of cell numbers on 2nd and 3rd day.
   PDGF stimulated significantly PDL mitosis at all concentration except at the concentration of 20ng/ml on 2nd day.
2. The maximum effect of PDL proliferation was observed at the concentration of 20ng/ml PDGF on 2nd day and 3rd day.
   Its effect was about two-fold in crement than control group.
   At that concentration, cell numbers were$(11.06\pm 1.14)\times 10^4$ cell/ml and $(13.54\pm 2,26)\times 10^4$ cell/ml respectively.
3. Total protein contents was increased according to the concentration of PDGF. The maximum effect was at the concentration of 20ng/ml PDGF on 2nd day and 3rd day respectively.
4. On 3rd day, total protein contents and cell numbers were more increased than on 2nd day at all concentrations of PDGF, thus more researches and follow up studies of PDGF effect PDL proliferation remain to be evaluated but this study suggests that PDGF can be the effective adjunctives on the periodontal regenerative therapies.

A histopathologic study on the distribution of inflammatory cells in the periodontal lesions

S. J. Jeong, et al.
Dept. of Periodontology, College of Dentistry, Kyung Hee University

This study was performed to determine the distribution of inflammatory cells in the inflammed gingiva of periodontal lesions. Gingival tissues were obtained from 30 persons with healthy, gingivitis, adult periodontitis, rapidly progressive periodontitis, and localized juvenile periodontitis. These tissues were processed for H-E staining and observed by means of the light microscope.

The results were as follows :

1. In normal gingiva, there are scattered and slight inflammatory cell infiltration within subepithelial connective tissue and distribution rate of lymphocyte, plasma cell, PMNLs and macrophage is 85.00%, 11.90%, 1.47% and 1.28%.
2. The lesion of gingivitis shows mild infiltration of inflammatory cell within sub-epithelial connective tissue and distribution rate of lymphocyte, plasma cell, PMNLs and macrophage is 62.60%, 33.91%, 1.50% and 1.74%.
3. The lesion of adult periodontitis shows severe dense infiltration of inflammatory cell within sub-epithelial connective tissue and distribution rate of lymphocyte, plasma cell, PMNLs and macrophage is 20.40%, 75.50%, 1.70% and 2.20%.
4. The lesion of rapidly progressive periodontitis shows severe dense infiltration of inflammatory cell within sub-epithelial conncetive tissue and distribution rate of lymphocyte, plasma cell, PMNLs and macrophage is 14.80%, 80.20%, 2.20% and 2.58%.

5. The lesion of localized juvenile periodontitis shows mild infiltration of inflammatory cell within sub-epithelial connective tissue and distribution rate of lymphocyte, plasma cell, PMNLs and macrophage is 56.20%, 40.09%, 1.50% and 2.20.

Antigenic cross-reactivity among periodontopathic microflora by indirect immunofluorescence

K. J. Kim, et al.
Dept. of Periodontology, College of Dentistry, Seoul National University

It has been reported that common antigen exists among serotypes of *Bacteroides* species.

The purpose of this study is to detect that antigenic cross-reactivity among periodontopathic microflora.

Antigenic cross-reactivity was observed among *Actinobacillus actinomycetemcomitans* Y4, *Actinomyces viscosus* ATCC 15987, *Actinomyces nadeslundii* ATCC 12104, *Porphyromonas gingivalis* W50, *Prevotella intermedia* G8-9K-3, *Fusobacterium nucleatum* ATCC 25586, *Wolinella recta* ATCC 33238, *Eikenella corrodesn* FDC 373, *Bacteroides forsythus* ATCC 33238, *S. mutans* SK27, *S. sanguis* ATCC 10556 and *S. mitis* ATCC 10557. For the cross-reactivity test, antisera to the twelve strains of periodontopathic microflora was raised from rabbits. Antigenic cross-reactivity between these strains was performed by indirect immunofluorescence.

All experimental microorganisms showed strong response against self-antigen, mild response existed between *Actinomyces viscosus* and *Atinomyces naeslundii,* Between *Bacteroides forsythus* and Fusobacterium nucleatum, and among *Wolinella recta, Actinomyces viscosus* and *Actinomyces nadeslundii.*

These results suggested that antigenic cross-reactivity might be existed among periodontal periodontal microorganisms.

Further study is needed to detect the common antigen.

Electron microscopic study on human inflamed junctional epithelium

S. S. choi, et al.
Dept. of Periodontology, School of Dentistry, Dankook University

The purpose of this study was to investigate the ultrastructural features of human inflammed junctional epithelium. The tissue specimens were taken from a patient with severe periodontitis.

After extraction of tooth with not detached junctional epithelium, the tissue were fixed with 2.5% glutaraldehyde in 0.1M cacodylate buffer(pH 7.4) for 5 hours and decalcified with 0.1M EDTA solution for 12 weeks. The tissue was postfixed with 1% osmium tetroxide in 0.1M cacodylate buffer and dehydrated and embedded in Epon 812. For light microscopic observation, the specimen was