

증가하였고 49일에는 다소 감소하였으며 *S. mitis*는 증가하는 경향을 보였다.

4. Tetracycline-scaled군에서는 black-pigmented *Bacteroides*의 비율이 현저히 감소하였으며, tetracycline투여만으로도 black-pigmented *Bacteroides* 비율은 감소되었다. 그러나 scaling만으로는 black-pigmented *Bacteroides* 비율에는 변화를 주지 못했다.
5. Black-pigmented *Bacteroides* 군주간의 분포를 보면 실험 및 대조군 모두에서 *B. loeschii*가 가장 많이 나타났으며 시간의 경과에 따라 거의 변화가 없었다. 또한 tetracycline 투여군에서는 *B. intermedius*와 *B. gingivalis*가 감소하였고 *B. melaninogenicus*는 증가하였다.

● 치주탐침시 출혈과 관련된 치은염증의 세균학적 및 조직학적 연구

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치은염이 시작될 경우 임상적인 증상으로 제일 먼저 나타나는 것이 치은열구의 출혈을 들 수 있다.

치은열구 출혈의 원인이 치은조직의 염증에 기인된 것인바 이때 치은열구 출혈과 가장 상관관계에 있다고 생각되는 치은연하 세균 분포와 아울러 치은열구 삼출액 및 치은백혈구 출혈 빈도를 비교 검토하고자 12의 지원자를 대상으로 출혈 및 비출혈군을 정하기 위해 25g의 삼입압이 고정된 치주탐침을 이용하여 Sulcus Bleeding Index를 측정 0, 1두군으로 나눈 후 각각 12부위에서 치은액 삼출량을 측정하고, 위상차 현미경을 이용하여 치은연하 세균상, 광학현미경을 통한 조직학적 염증 침윤상을 평가하고, Paper point를 이용하여 치은연하 치태세균을 채취한 후 37°C 혐기성 세균 배양기 내에서 7일간 배양분리한 후 생화학적 검사 및 gas chromatography를 이용하여 *Bacteroides*군주의 검정을 실시하였던바, 다음과 같은 결과를 얻었다.

1. 출혈군에서 비출혈군에 비하여 치은액 삼출량의 증가를 보였다($P < 0.01$)
 2. 출혈군에서 비출혈군에 비하여 비운동성 세균은 감소한 반면, 운동성 세균 및 스피로헤타는 증가하였다($P < 0.01$)
 3. 조직학적 염증 침윤상 정도는 출혈군에서 비출혈군에 비하여 유의성있게 증가하였다($P < 0.01$)
 4. 비출혈군에서 혐기성 세균 중 25%가 black-pigmented *Bacteroides*로 나타났으나, 출혈군에서는 32.7%로 증가하였다. 그러나, 통계학적 의의는 없었다.
 5. black-pigmented *Bacteroides*의 분포 상태를 조사한 결과 *B. loeschii*가 가장 빈번하게 나타났으며, 출혈군에서 비출혈군에서 비하여 약간의 증가를 보였다.
- B. gingivalis*의 경우 비출혈군에서는 전혀 나타나지 않았으나, 출혈군에서 2strains이 나타났다.

ypes. The purpose of this study was to longitudinally examine the clinical and microbiological effects of topically applied TC in a double-blind and split-mouth design. Thirteen patients with moderate periodontitis, who were treated with or without TC application and scaling treatment, were examined. TC gel(3%) was used to apply into the selected periodontal pockets twice a week for 2 weeks.

During the experiment, clinical parameters and subgingival microbial morphotypes were examined, and for isolation of black-pigmented *Bacteroides*(BPB) and streptococci, an anaerobic sample culturing was done at week 0, 2, and 7. In clinical observation the TC-scaled group exhibited a significant decrease of G. I. Index, Plaque Index, S. B. Index, pocket depth, and GCF when compared to the TC-unscaled, placebo-scaled, and placebo-unscaled groups.

The result of microbial morphotype observation showed a significant increase of coccal form and a decrease of spirochetes in the TC-scaled, TC-unscaled, and placebo-scaled groups. The culture study of streptococci revealed that TC with scaling treatment resulted in a significant increase of *S. sanguis* I at week 2, but its proportion had returned to the base line level. The anaerobic culture study showed that BPB was significantly reduced in the TC-scaled and TC-unscaled groups at week 7. Among BPB species, *B. intermedius* declined significantly with time treatment(week 2 and 7) in the TC-scaled and TC-unscaled groups. These results suggest that the settled pathogenic microflora can be succeeded by nonpathogenic microflora in periodontal pockets after TC treatment.

Correlation of the subgingival microflora and gingival neutrophils with bleeding upon probing in early gingivitis

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Some recent studies have focused on the question of the association of gingival crevicular fluid, subgingival microbial morphotypes, and inflammatory cell infiltration with bleeding upon probing in established or moderate gingivitis.

The purpose of this study was to observe the association of the proportion of subgingival microflora and gingival tissue neutrophils with bleeding upon probing in early gingivitis. Twelve volunteers were selected and examined of their gingival conditions in a double-blind and split-mouth design. Clinical parameters including Sulcus Bleeding Index and GCF were evaluated, and microbial morphotypes were determined by a phase contrast microscope. Isolation and identification of black-pigmented *Bacteroides*(BPB) species were conducted under anaerobic condition. Gingival tissue neutrophils were detected by using of peroxidase staining. The amount of GCF in the bleeding group was greater than in the non-bleeding group. The proportion of coccal form in the bleeding group was lower and the proportion of spirochetes in the bleeding group was higher than in the non-bleeding group. The differences in clinical parameters and the proportions of morphotypes between two groups were statistically significant. By contrast, in anaerobic culture study a difference was not observed between two groups in the proportion of BPB. The histometric analysis revealed that the percentage of infiltrated gingival neutrophils in the bleeding group was higher than in the non-bleeding group. These results

suggest that occurrence of spirochetes and gingival tissue neutrophils may be associated with the initiation of bleeding upon probing.

A clinical study on the sulcus bleeding index correlation to gingival index, plaque index, gingival crevicular fluid and pocket depth

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Two hundred and five male patients without systemic diseases were selected to study the correlation among the several clinical parameters on the area of labial aspect of anterior segment of upper dentition.

The periodontal condition of each selected patient was checked by Plaque Index(PI : Silness et al.), Sulcus Bleeding Index(SBI : Mühlemann et al.), Gingival Index(GI : Löe et. al.), Pocket Depth (PD) and Gingival Crevicular Fluid(GCF).

The amount of GCF was evaluated by Periotron(Harco Electronics, Canada) and by color reaction of Ninhydrine on the periopaper strip(harco Electronics, Canada).

The correlations between SBI and the other clinical parameters were statistically analyzed.

The results were as follows :

1. PI scores had no significant difference corresponding to SBI scores, and correlation between PI and SBI was weak positive($r=0.48$; $P>0.1$).
2. GI scores had a significant difference corresponding to SBI scores and strong positive correlation ($r=0.94$; $P<0.05$).
3. The amount of GCF was not increased in proportion to SBI score, but correlation between GCF and SBI was positive($r=0.91$; $P<0.05$: Periotron, $r=0.90$: $P<0.05$: Ninhydrine).
4. The correlation between the Periotron and Ninhydrine score was most positive($r=0.98$; $P<0.01$).
5. PD was also increased corresponding to SBI score($r=0.94$; $P<0.05$).

It is noticed that the several clinical parameters selected in this study have a strong positive correlation, but their values are not multiplied correspond with each score to evaluate the perioontal health.

The inorganic composition of supragingival and subgingival dental calculus

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The purpose of the present study was to determine the amount of inorganic components in supragingival and subgingival dental calculus from known areas of the oral cavity and to compare the content and distribution of inorganic component in two kinds of calculus.

100 supragingival samples and 108 subgingival samples were collected from 68 patients, in the age of 28 to 68 years, who suffered from periodontal disease and revealed more than degree 2 by