

## 2. 형광현미경으로 검사한 결과

tetracycline 수용액에 5분간 침수되었던 표본들은 농도 1mg/ml에서는 황색형광이 나타나지 않았고 농도 2.5~25mg/ml에서 약하고 부분적인 형광이 象牙質層과 白堊質層에서 나타났으며 tetracycline의 농도 변화에 따른 뚜렷한 색깔과 강도의 차이는 발견되지 않았다.

tetracycline 수용액에 24시간 동안 침수되었던 표본들은 白堊質의 전두께를 통하여 밝은 황색의 螢光을 나타냈으며 tetracycline 용액의 농도가 증가함에 따라 색깔과 강도가 더 강하게 나타났다. 노출된 象牙質 표본에서는 象牙細管을 따라 螢光이 관찰되었다.

이상의 연구 결과는 tetracycline이 50mg/ml 이상의 농도에서 결합조직의 再附着에 유용한 脫灰效果와 齒根에의 結合效果가 있다는 것을 보여주며 임상적으로 시술에 응용할 수 있을 것으로 생각된다.

## ● 치태제거에 따른 성인성 치주염과 급성진행성 치주염 환자의 세균성 변화에 따른 연구

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치주질환을 주소로 내원한 21명의 환자(성인성 치주염 환자10명, 급성진행성 치주염 환자11명)를 대상으로 위상차 현미경을 사용하여 초진시 세균의 형태학적 분포를 조사하고 치태조절 후 2주 및 4주 후 각각의 치은연하 치태세균의 형태학적 분포를 조사분석하여 다음과 같은 결론을 얻었다.

1. 초진 및 치태조절 후 2주째에서 구균의 분포는 성인성 치주염이 급성진행성 치주염보다 유의성있게 높게 나타났으나( $P < 0.005$ ) 나선균 및 운동성 간균의 분포에서는 성인성 치주염이 급성진행성 치주염보다 낮게 나타났다.
2. 각 검사기관에서의 구균과 운동성 간균 및 나선균의 상호관계는 반비례 경향을 나타냈으나, 운동성 간균과 나선균간의 상호관계는 비례하는 경향을 나타냈다.
3. 치태조절 후 치은연하 치태세균중 구균은 증가하는 경향을 보였으나, 운동성 간균 및 나선균은 감소하는 경향을 보였다.
4. 성인성 치주염 및 급성진행성 치주염에서 공허 구균의 분포가 가장 높았으며 방추형균이 가장 낮게 나타났다.

## ● 구강병소에서 분리된 포도상구균의 약제 내성 및 내성 유형에 관한 연구

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활농성 구강병소 296예의 가검물로 부터 세균을 검출하여 분리균주의 분포를 조사하였으며 검출균들 가운데 포도상 구균만을 대상으로 Tetracycline(TC), Penicilline(PC), Kanamycin(KM), Chloramphenicol(CP), Ampicilline(AP), Gentamycin(GM), Erythromycin(EM), Amikacin(AK) 및 Stre-

## Effect of tetracycline-HCl on the periodontally diseased human root surface

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The purpose of the present study was to evaluate the effect of the tetracycline-HCl on root planed thoroughly.

For scanning electron microscopic study, tooth slab(6×3×2mm) was prepared from root surface that was involved in periodontal pocket and was immersed in tetracycline aqueous solution of 1, 2.5, 5, 10, 25, 50, 75, 100mg/ml for 5 min. and in citric acid solution(pH 1) for 3 min. respectively. All specimens were fixed and processed.

For fluorescence microscopic examination, root slab that was involved in periodontal pocket was immersed in tetracycline aqueous solution for 5 min. and 24hr and in citric acid solution for 3 min. respectively.

The specimens were rinsed and sectioned in approximately 150um thickness and observed.

The results were as follows :

1. Scanning Electron Microscopic examination revealed no difference at 1mg/ml tetracycline solution compared to the root planed specimen without tetracycline conditioning.

In 2.5-25mg/ml tetracycline solution, localized demineralization was observed in cementum only. Above 50mg/ml tetracycline concentration, cemental collagen fibers were observed in remained cemental surface, and opened dentinal tubules were observed in exposed dentinal surface. The demineralizing effect was similiar with the sample exposed to the citric acid.

2. In samples immersed for 5 min., fluorescent microscopic study revealed no yellow fluorescence at 1mg/ml tetracycline solution. In 2.5-25mg/ml tetracycline solution, there was weak and localized fluorescence on dentin and cementum surface. Above 50mg/ml tetracycline solution there was bright yellow fluorescence in the periphery of the cementum surface. There was no detectable color and intensity difference according to various concentrations. Specimens immersed for 24hr. revealed a bright yellow fluorescence through the full thickness of cementum. The intensity and color was strengthened according to increasing concentrations of tetracycline solutions. In exposed dentin surface, yellow fluorescence was observed along the dentinal tubules.

This result suggests the topical application of tetracycling above 50mg/ml in periodontal therapy will be useful for connective tissue reattachment.

## A study of subgingival microbial change of adult periodontitis and rapid progressive periodontitis patients after plaque control

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The purpose of this study was to determine the microbial changes of Adult Periodontitis and

Rapid Progressive Periodontitis patients after plaque control.

Twenty-one individuals, ten patients who had the Adult Periodontitis and eleven patients who had the Rapid Progressive Periodontitis, were selected for this study.

Subgingival microbiota was observed by Phase-Contrast microscope and the results were analyzed statistically.

The results were as follows :

1. In the first examination and 2 weeks after plaque control, the percentage of cocci in Adult Periodontitis were significantly higher than that in Rapid Progressive Periodontitis, but the percentage of the spirochetes and motile rods in Adult Periodontitis were lower than that in Rapid Progressive Periodontitis, but the percentage of the spirochetes and motile rods in Adult Periodontitis were lower than that in Rapid Progressive Periodontitis.
2. The interrelationships among cocci, motile rod and spirochetes were showed the tendency of reciprocal proportion, but that between motile rods and spirochetes were showed the tendency of proportion.
3. After plaque control, cocci in the subgingival microbiota had tendency to increase, but motile rods and spirochetes had tendency to decrease.
4. The percentage of cocci in the both Adult Periodontitis and Rapid Progressive Periodontitis were the highest and that of fusiforma were the lowest.

## A study of drug resistance and resistant patterns of staphylococcus aureus isolated from oral lesion

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296 specimens of oral pyogenic infections were selected during the period between 1986 and 1987 for this study.

Strains isolated from those specimens were classified as follows : 161 strains(54.4%) as Streptococcus spp., 110 strains(37.2%) as bacteroides, 92 strains(31.1%) as Staphylococcus, 56 strains(18.9%) as coliforms, 27 strains(9.1%) as Anaerobic Gram-positive cocci, 14 strains(4.7%) as Anaerobic Gram-negative rods, and 10 strains(3.8%) as Fusobacterium spp.

Among the total 92 isolates of Staphylococcus spp., 84 strains were identified as Streptococcus aureus, and their susceptibilities to 9 common antibiotics was determined by agar dilution method.

All strains were resistant to two or more drugs. The resistance found most commonly were to tetracycline(TC,89.2%) and to penicillin(PC,89.2%), Kanamycin(KM,79.8%), chloramphenicol(CP,72.6%), ampicillin(AP,70.2%), gentamycin(GM,55.95%), erythromycin(GEM,32.1%), amikacin(AK,17.9%) and streptomycin(SM,15.5%), in order. The kinds of resistance patterns were 42. The resistance to TC PC KM CP GM AP EM was most common and followed by TC PC KM AP.