● Split-Tickness Procedure와 Free gingival Graft시의 치유과정에 관한 광학 및 전자현미경적 연구

하상완 · 손성희
서울대학교 대학원 치의학과 치주과학 전공

본 연구는 8마리의 성견에서 Split-thickness Procedure와 Free Gingival Graft를 시행한 후 4일, 1주, 2주 및 3주마다 동물을 희생시켜 치조골, 결합조직, 기저막 및 상피의 변화, 교원섬유의 배열, 그리고 염증세포의 분포 등을 조직학적 및 전자현미경적으로 관찰하였으며 조직표본 제작 방법은 절취한 조직을 10% formalin에 1주동안 고정하고 이를 5% Tricholoacetic acid에 1주동안 탈회하였으며 탈수, paraffin의 포매를 거쳐 H&E, PAS 및 van Gieson 염색을 하였다.

전자 현미경 관찰을 위하여는 따로 glutaraldehyde-formalin-phosphate buffer solution과 osmium tetroxide에 고정하고 탈수, Epon의 포매 및 염색을 하여 관찰하였으며 그 결과 다음과 같다.

1. Free Gingival Graft를 시행한 후 제4일에서는 이식한 기저층 세포가 거의 정상이었고 기저막은 PAS염색에 반응하였으며 잔존 기저층세포가 초기상피화에 기여하였으나 Split-thickness Procedure에서는 상피 이주가 하부에서 시작되었다.
2. Free Gingival Graft를 시행한 후 제4일에 있어서 파골세포의 활동은 치조골 정상에서만 볼 수 있었으나 Split-thickness Procedure에서는 치조골의 외측과 정상에서 모두 볼 수 있었고 치조골 정상은 외측보다 더욱 활발했다.
3. Free Gingival Graft와 Split-thickness Procedure를 시행한 제2주에서는 모두 상피이주가 많이 진행되고 각화현상에 있어서 Free Gingival Graft에서는 부각화현상을 나타냈으나 Split-thickness Procedure에서 볼 수 없었다.
4. Free Gingival Graft와 Split-thickness Procedure를 시행한후 제3주에서는 모두 상피화가 정상에 가까웠고 Free Gingival Graft에서는 명확한 각화현상을 보였으나 Split-thickness Procedure에서는 부각화현상을 나타냈다.
5. 이상의 결과는 치은의 퇴축방지와 치유면에 있어서 Free Gingival Graft는 Split-thickness Procedure보다 많은 이점이 있음을 알 수 있었다.

● 치은연상과 치은연하 치석의 Ca와 Mg함량에 관한 연구

김의환 · 이만섭
경희대학교 치과대학 치주과학교실

著者는 齒石 沈着度가 深한 齒周疾患患者 36名의 齒石을 齒齦緣上과 緣下로 分離 採取하여 Ca과 Mg의 濃度를 Atomic Absorption Spectrophotometry로 分析하여 다음과 같은 結論을 얻었다.

1. Ca의 濃度는 齒齦緣上 齒石이 169.02mg/g, 齒齦緣下 齒石은 137.23mg/g으로 齒齦緣上 齒石이 더 높았다.($p<0.001$)
2. Mg의 濃度는 齒齦緣上 齒石이 7.38mg/g, 齒齦緣下 齒石이 11.26mg/g로 齒齦緣下 齒石이 더 높았다.($p<0.001$)
3. Ca은 年齡 增加에 따라 그 濃度가 增加하는 趨勢를 보였으나 Mg에서는 연령 增加와 關聯이

없었다.

4. Ca의 濃度는 齒齦緣上 齒石이 男子에서 175.04mg/g, 女子에서 159.75mg/g이며($p>0.1$), 齒緣下 齒石이 男子에서 145.74mg/g, 女子에서 123.85mg/g로 男子가 높았다.($p<0.0025$)
5. Mg의 濃度는 齒齦緣上 齒石이 女子에서 10.94mg/g, 男子에서 7.27mg/g이며 齒齦緣下 齒石은 女子가 11.75mg/g, 男子가 7.55mg/g로 女子가 높았다.($p>0.1$)
6. Ca과 Mg 모두 齒齦緣上과 緣下 齒石의 濃度의 比較値에 대한 有意性 檢定結果 統計學的으로 有意性이 높았다.($p<0.001$)

● 치태성장 양상과 치은염의 진행에 관한 연구

박장양 · 이만섭 · 권영혁
경희대학교 치과대학 치주과학교실

全身 및 口腔健康狀態가 良好하고 正常咬合을 보이는 15名의 靑年을 對象으로 하여, 이들의 齒苔樣相과 齒齦炎의 進行을 9週동안 硏究觀察하여 다음과 같은 結論을 얻었다.

1. 齒苔는 口腔淸潔後 第1週만에 急速한 成長을 보였다.
2. 齒苔의 成長은 어느 一定期間동안 增加되다가 그 以後는 多少 減少되었으며, 反面에 齒齦炎은 처음부터 마지막까지 서서히 增加되었다.
3. 齒苔의 蓄積量과 齒齦炎症度는 共히 上顎보다 下顎에서 높았다.
4. 齒齦炎症度는 右側이 左側보다 높았으나, 齒苔의 蓄積量은 左右側間에 差異가 없었다.

● 치주염환자의 치석내 Zn함량에 관한 연구

이정호
경희대학교 대학원 치의학과 치주과학전공

齒周疾患에 罹患되어 있으며 齒石 沈着度가 Ennever의 指數로 2度 以上인 男女 44名의 齒石을 齒齦緣上과 緣下로 分離 採取하여 Atomic Absorption Spectrophotometry로 Zn濃度를 分析하여 다음과 같은 結論을 얻었다.

1. 齒齦緣上 齒石의 平均 Zn濃度는 46.04± 32.22μg/mg이며 齒齦緣下는 21.17± 15.29μg/mg이였다.($p<0.001$)
2. 年齡 增加에 따른 Zn濃度는 特異한 差異가 없었다.
3. 齒齦緣上 齒石이 緣下 齒石보다 Zn 濃度가 높았으며 두 部位의 相互比較置는 統計學的으로 有意性이 있었다.($p<0.005$)
4. 男女別 Zn濃度의 比較置는 齒齦緣上, 緣下 共히 特異한 差異가 없었다.
5. 齒周疾患 罹患指數의 增加에 따라 Zn濃度도 顯著히 增加하는 趨勢였다.

A light and electron microscopic study on the healing process following the split-thickness procedure and free gingival graft

Sang Wan Ha, Seong Heui Son.
Department of Periodontology, Graduate School, Seoul National University

The healing process of following the free gingival graft placed on the periosteum and split-thickness procedure were observed light microscopically and ultrastructurally in 8 Mongrel dogs.

1. In 4 days free graft specimens, grafted basal cell layers were remained intactly and their basement membrane was positively reacted and their basement membrane was positively reacted wth PAS staining.
   But in split-thickness flap, epithelial migration was started to the lower part of epithelium. But in 4 days split-thickness flap, PAS reaction was irregularly shown and their were not revealed may basal cell layer in these specimens.
   From this result, it was suggested that remaining basal cell layer in free gingival graft procedure contributed to early phase of epithelization. Early phase of epithelization was quite different from those two kinds of surgery.
2. In 4 days split-thickness specimens, osteoclastic activity was quite prominent in the alveolar crest area than outer surface of alveolar bone. But to compare with split-thickness, 4 days free graft specimen showed weak osteoclastic activity was revealed only on the alveolar crest area and outer surface of alveolar bone was not shown any osteoclastic acitivity.
   Furthermore, osteoclasts were still activity shown in 1 week split-thickness specimens. But in free graft specimens, no osteoclastic activity was seen. From this result, free gingival graft had more advantage to protect alveolar bone crest and their surrounding structure.
3. In 2 weeks and 3 weeks of those two kinds of specimens, epithelial cell layers of the development and keratinization were prominently different between upper part(formerly occupied by attached gingiva)and lower parts(formerly occupied by alveolar mucosa).
   It means that keratinization was better developed in firm connective tissue bed than in loosed connective tissue bed.
4. Free gingival graft was better than split-thickness procedure in regard to gingival recession and acceleration of healing process.

A study of the concentration of Ca and Mg in supra and subgingival calculus

Euh Hwan Kim, Man Sup Lee
Department of Periodontology College of Dentistry, Kyung Hee University

(Concentrations of Ca and Mg is supra-and subgingival calculus)

Dental calculus is an important local factor in the occurence of Periodontal disease. It is a calcified deposit formed on the tooth surfaces. The contents of Ca and Mg of calculus play an important

role in calcification of calculus. To study the Ca and Mg contents, 22 males and 14 females patients were selected, who have periodontal disease clinically and showed more than degree 2 by Ennevers calculus surface severity index. Calculus samples were collected mainly from mandibular anterior teeth. Ca and Mg contents were analyzed with Atomic Absorption Spectrophotometry. The results were as follows.

1. The mean value of Ca concentration in supragingival calculus was 169.09mg/g and in subgingival calculus was 137.23mg/g. The differance in Ca concentration of supra-and subgingival calculus was highly significant.($p<0.001$)
2. The mean value of Mg content in supragingival calculus was 7.38mg/g and in subgingival calculus was 11.26mg/g. Differance in Mg concentration of supragingival and subgingival calculus was significant.($p<0.001$)
3. Ca concentration was increased by aging but Mg concentration was not so.
4. The mean value of Ca content of subgingival calculus was 145.74mg/g in male and was 123.85mg/g in female patients. Differance in Ca content of male and female was significant.($p<0.025$) The mean value of Ca concentration of supra-and subgingival calculus was 175.04mg/g in male and was 159.75mg/g in female. Differance in Ca concentration of male and female was not significant. ($p>0.1$)
5. Mg concentration of supragingival calculus was 10.9mg/g in female and was 7.27mg/g in male. Mg concentration of subgingival calculus was 11.8 in female and was 7.27mg/g in male.
6. When Ca and Mg contents of supra-and subgingival calculus was compared, differance of Ca and Mg contents in supra-and subgingival calculus was significiant.($p<0.001$)

Plaque growth and gingivitis development in young adults

Chang Yang Park, Man Sup Lee, Young Hyuk Kwon
Department of Periodontology, College of Dentistry, Kyung Hee University

The pattern of plaque growth and the development of gingivitis were investigated during a nine-week period. Fifteen male dental students of good general and oral health and having normal occlusion participated in this study. The were from 21 to 24 years of age.

The subjects were performed thorough-scaling, prophylaxis and oral hygiene instruction. They were instructed twice daily toothbrushing. The plaque accumlation and gingivitis degree were assessed according to the plaque index system and gingival index system(Löe, 1967).

The subjects were examined each week during nine-week period by the same investigator.

The data from clinical examination were analyzed statistically.

The conclusions were summarized as follows ;

1. Dental plaque was showed a rapid growth at the first week after dental prophylaxis.
2. The growth rate of dental plaque was increased within a given period, and since then was levelled off. On the other hand, gingivitis showed a linear increase with time.
3. The amount of dental plaque and the degree of gingivitis in mandibular was higher than in maxilla.