

● Hydroxyapatite 이식 및 구연산도포가 성견 골내낭 치유에 미치는 영향에 대한 실험적 연구

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성견의 상하악 소구치 부위에 외과적으로 3번 골내낭을 형성하고 9주간 tin-foil을 삽입하여 만성 치주염을 야기시킨 후 치은판막술을 시행하여 치근활택술만을 시행한 경우(R), 치근활택술과 치근면에 PH1의 구연산처리를 한 경우(CR), 치근활택술과 hydroxyapatite이식을 시행한 경우(HR), 치근활택술, 구연산처리 및 hydroxyapatite이식을 시행한 경우(CHR)의 4군으로 나누어 조직학적으로 비교, 관찰하여 다음과 같은 소견을 얻었다.

1. Hydroxyapatite이식군(HR군)과 구연산 처리 및 hydroxyapatite이식군(CHR)의 경우, 4주에서 골내낭 기저부위에 hydroxyapatite주위로 신생골 형성이 시작되어 16주에는 골형성이 증가되는 양상이 관찰되었으나, 골내낭 상부에는 치밀한 결합조직섬유에 의해 둘러싸여 있는 치유양상을 관찰하였다.
2. 치근활택술군(R군)과 구연산 처리군(CR군)의 경우, 4주부터 성숙된 신생골이 관찰되어 16주에는 골내낭 부위가 치밀한 치조골로 재생되었다.
3. Hydroxyapatite이식군(HR군)과 구연산 처리 및 hydroxyapatite이식군(CHR군)의 경우, 2주부터 16주까지 hydroxyapatite와 치근사이의 결합조직섬유는 주로 치근에 평행하게 주행하였다.
4. 치근활택술군(R군)과 구연산 처리군(CR군)의 경우, 신생골과 신생백악질 사이의 결합조직섬유가 8주부터 수직배경을 시작하여 16주에는 치주인대에 기능적인 배열이 관찰되었다.
5. 구연산 처리 및 hydroxyapatite이식군(CHR군)의 2주 소견을 제외하고 전 실험군에서 2주부터 신생백악질 형성이 시작되어 16주 소견에서는 치조정 상부까지 형성되었다.
6. 치근활택술군(R군)의 2주 소견을 제외하고 치조정 하부까지의 부착상피 근단이동은 관찰할 수 없었고, 16주의 전실험군에서 치조정 상부의 소견은 신생결합조직 부착의 양상을 나타내었다. 이상의 소견을 종합하여 보면 hydroxyapatite이식재료가 골내낭 치료시 충전물으로써의 효과는 있으나 16주까지 치주인대의 기능적인 부착은 관찰할 수 없었으며, 치근의 구연산 처리가 부가적인 신생부착을 증진시키지는 않는 확인되지 않았다.

● 한국인의 치태, 치석, 치주낭 깊이, 치은퇴축 및 출혈의 상호관계에 대한 역학적 연구

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저자는 치주질환의 활성도를 임상적으로 측정할 수 있는 임상지표중 치주낭의 깊이, 치은퇴축, 치태지수, 치석지수, 및 탐침후 출혈등의 상호관계를 연구하기 위하여 각 지방에서 임의로 선정된 한국인 1149명을 대상으로 조사하여 각 지표간의 상관관계를 비교하여 다음과 같은 결론을 얻었다.

Eosin staining, for immunochemical method, and for HLA-DR antigen analysis using a mouse monoclonal antibody. All tissue sections were viewed using light microscope and immunofluorescence microscope.

Following results were obtained

1. In normal gingival epithelium, staining of HLA-DR antigen was confined to a few dendritic cells present in a suprabasallayer.
2. The number of HLA-DR-positive dendritic cells in tissue from gingivitis group were increased and generally distributed in other epithelial layer including suprabasal layer. On the other hand, intercellular bridge of basal cell in gingival epithelium exhibited a weak HLA-DR reactivity.
3. In tissue from periodontitis group, HLA-DR-positive dendritic cells were more numerous than those of gingivitis group. Intercellular bridge within both stratum basale and stratum spinosum exhibited characteristic HLA-DR reactivity in tissue form periodontitis group. The density, morphology and distribution of HLA-DR-positive dendritic cells within epithelium closely reemled those of infiltrated inflammatory cells within the dermis. Furthermore, HLA-DR reactivity was proportionately increased by the progression of periodontitis.
4. HLA-DR reactivity within gingival epithelium was increased in relation to the progression of periodontal disease. Consequently, this finding would suggest that HLA-DR antigen is one of specific indicators in evaluation of progression of periodontitis.

An experimental study on healing response of intraosseous lesion following the use of hydroxyapatite grafting and citric acid application on dogs

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This study was undertaken to study the healing response of four periodontal regenerative procedures in the treatment of periodontal intraosseous defects on dogs.

After the mucoperiosteal flaps were raised, test procedures included :

- 1) Root planing procedure(R)
- 2) Root planing with citric acid conditioning of the root(CR)
- 2) Root planing with grafting of hydroxyapatite(HR)
- 4) Root planing with citric acid conditioning of the root and grafting of hydroxyapatite(CHR)

Eight dogs were equally divided into four groups in the test. Periodontal three-wall intrabony pockets were created artificially with surgical bur and chisel on the mesial surfaces of the third, fourth premolars and tin-foils were adapted to make a chronic inflammatory status.

All defects were reopened 9weeks later and the foils were removed and bur-notches were made on one root at the base of each defect to serve as reference points and then four regenerative procedures were performed.

Thereafter, dogs were serially sacrificed on the 2, 4, 8, 16th week and the specimens were prepared and stained with hematoxylin and eosin, and Gomori's trichrome stain for the light microscopic finding.

The results of this study were as follows :

1. In the hydroxyapatite grafting(HR) group and citric acid conditioning with hydroxyapatite grafting (CHR)group, new bone adjacent to hydroxyapatite particles in the most apical aspect of the defect was seen in the 4th week and considerable new bone adjacent to hydroxyapatite particles was seen in the apical zone of the infrabony defect, but the particles were surrounded by dense fibrous connective tissue in the coronal zone in the 16th week.
2. In the root planing(R) group and citric acid conditioning(CR) group, matured new bone in intrabony defect was seen in the 4th week and intrabony defects were regenerated with new alveolar bone in the 16th week.
3. In the hydroxyapatite grafting(HR) group and citric acid conditioning with hydroxyapatite grafting (CHR) group, connective tissue fiber arrangement in periodontal ligament space was predominantly parallel to the root from the 2nd week to the 16th week.
4. In the root planing(R) group and citric acid conditioning(CR) group, connective tissue fiber arrangement in periodontal ligament space was perpendicular to the root in the 8th week and new periodontal ligament attachment was seen in the 16th week.
5. New cementum formation on the root was seen in the 2nd week except CHR group and new cementum was extended over the alveolar crest in all of the 16th week group.
6. The junctional epithelium didn't extend below the alveolar crest except the 2nd week's R group and new supraalveolar connective tissue attachment was seen in all of the 16th week group.

The results suggested that hydroxyapatite be an effective filling material for intrabony defects. But hydroxyapatite grafting didn't show a new periodontal ligament attachment until the 16th week and additional new attachment was not found following the use of citric acid treatment compared with non-acid treatment.

An epidemiologic study on the correlations among plaque, calculus, pocket depth, gingival recession and bleeding in Koreans

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This study was undertaken to compare the interrelationship the clinical parameters, pocket depth (PD), gingival recession(GR), plaque index(PI), calculus index(CI) and bleeding on probing(BP) as predictors of periodontal disease activity.

Author selected 1149 Korean subjects from local districts by random sampling, made the data of the clinical parameters and compared the correlations of each parameter.

The results were as follows :

1. The subjects without bleeding on probing were 292(25.4%), beeleeding on full dentition were 53(4.6%). BP. increased significantly by aging in males as well as females.(male $P < 0.05$, female < 0.01), Average BP were 0.31 ± 0.44 in males, 0.24 ± 0.32 in females and there were significant differences($P < 0.01$) between males and females.