

● 백토에 있어서 실험적 치주염에 관한 면역학적 연구

김 충 건

서울대학교 대학원 치의학과 치주과학 전공

實驗적으로惹起된過敏反應이齒周組織損傷을 일으킬 수 있는如否를究明하기爲하여實驗動物로서 2~3.5kg의白兎 32마리를使用하였다. 그중 24마리는馬血清을耳靜脈에注射하여感作시켰고 2마리는感作된白兎血清으로 passive transfer시켰고 나머지 6마리는感作시키지 않았다.全體 32마리를 gingival challenge를爲해 두群으로 나누어 半은實驗群으로 20% 馬血清에, 半은對照群으로食鹽水에線絲를 적서下顎前齒唇面齒齦裂溝內에插入하였다.線絲插入은 여러時間差로始行하였고白兎는 마지막線絲插入後 여러時間間隔으로犧牲시켜觀察하였는데 그結果는 다음과 같다.

1. 感作된白兎의齒齦裂溝에抗原을 적신線絲를插入하였을時急性炎症變化가 일어났다.
2. 實驗群에 있어서炎症變化의甚度는 1回插入한 것보다連續 3日插入하였던 것과 한달동안 週3回씩插入한白兎에서甚하였다.
3. 實驗群의組織所見은結合組織에 있어서血管의血栓, 淋巴細胞와形質細胞의浸潤이 있었고齒齦裂溝上皮의潰瘍을 볼 수 있었다.
4. 實驗群의齒槽骨의破骨細胞가 많이增加하였다.
5. 對照群과感作안된白兎에서는微微한炎症反應이 있었으나血栓, 破骨細胞의出現은 볼 수 없었다.

● Diphenylhydantion(Dilantin) 투여가 성견 타액선 및 간조직에 미치는 영향에 관한 실험적 연구

문동선 · 이재현 · 김종은

서울대학교 치과대학 치주과학교실

Diphenylhydantoin(Dilantin) 投與時에唾液腺 및肝組織에 미치는影響에對해서研究코저永久齒가完全崩出된生後 6個月된 12마리의成犬을對象으로實驗하였으며 이實驗動物을 4群으로 나누워 1. 對照群, 2. 局所刺戟群, 3. Dilantin 投與+局所刺戟群, 4. Dilantin 投與로分流하여 1, 2群은局所刺戟仁慈로서前齒部에 wire로結紮하였다. 3群은局所刺戟賦與와 Dilantin만을投與하였다.

Dilantin은經口的으로投與했으며體重 Kg當 1日用量 7mg을投與하였다. 이實驗動物은 37日, 44日 및 50日에各各犧牲시키었으며肝組織 및唾液腺을摘出했으며 10% neutro formalin에固定하여通法에依하여組織標本切片을製作鏡檢하여 다음과 같은結論을 얻었다.

1. 局所刺戟群의組織像, 唾液腺에 있어서는對照群에比해서別差異가 없었다
2. 第3群 Dilantin投與+局所刺戟群이나第4群의 Dilantin 投與群은肝組織에서甚한炎症性反應을보였으며 또한炎症細胞中에서도形質細胞, 淋巴球, 大食細胞 등의浸潤과壞死, 出血, 小

葉構造의 消失 等を 觀察하였고 實驗期間이 길수록 甚한 症狀을 보였다.

3. Dilantin投與群이나 Dilantin投與+局所刺戟群에 있어 唾液腺에서는 炎症症狀을 別로 볼 수 없으나 纖維性變性이나 腺房의 萎縮 等이 나타났다.
4. 第3群 Dilantin投與+局所刺戟群과 第4群 Dilantin 投與群間에 있어서는 第3群에 더욱 甚한 炎症組織像의 傾向을 보였다.

● 염증성 치은조직의 면역 병리학적 연구

최 상 목

서울대학교 치과대학 치주과학교실

염증을 수반한 치은조직에서 면역 globulin의 국재성을 형광항체법에 의하여 관찰한 바 다음과 같은 결론을 얻었다.

1. 상피층에서는 염증성변화와 상관성을 인정할 수 없었으나 결체조직에서는 염증성변화와 immunoglobulin의 국재성과 상관성을 보였다.
2. 다수 예가 기저세포층에서 강한 특이형광을 보였고 상피층 전반에 걸쳐 존재하는 경우와 상피세포 간격에 존재하는 경우, 극세포층의 소수세포에서 불규칙하게 존재하는 경우 등의 양상을 보였다.
3. 결체조직섬유에서는 선상 또는 대상의 섬유주행과 일치한 상을 보였다.
4. 조직파괴가 심한 부위에서 소괴상 또는 파립상의 특이형광물이 검출되었다.
5. 혈관벽 및 혈관주위에서 강한 특이형광을 보였다.
6. 형질세포에서 대부분 immunoglobulin의 존재를 보며 소수의 임파구에서도 immunoglobulin이 검출되었다.
7. Russel씨 소체는 소체전체에서 특이형광을 보였다.

● 불소가 치은조직에 미치는 영향에 관한 연구

손 성 희

서울대학교 치과대학 치주과학교실

본 연구는 건강한 치은조직을 가진 사람 10명을 대상으로 상하악 전치 양측부위에 NaCl, NaF, Al(ClO₃)₃, Na₂PO₃F 용액을 1, 2, 3, 4, 5, 10일간 국소도포하여 다음과 같은 결과를 얻었다.

1. NaCl를 도포한 부착치은에 있어서는 약간의 각화도가 증가하였으며 치조점막부에 있어서는 각화도가 감소하였다.
pyknosis 정도는 부착치은에서는 감소하였으나 치조점막 부에서는 증가하였다.
2. NaF 처리한 부착치은에 있어서 5일 후에는 약간 증가하였으나 별 변화는 없었으며 치조점막 부에서는 약간의 증가현상을 보였다.
pyknosis는 부착치은에서 약간 증가하였으나 치조점막에서는 변화가 없었다.

Immunologic study of periodontal inflammation in Albino rabbits

Choong Gun Kim

Department of periodontology, Graduate School, Seoul National University

The present study was carried out to investigate whether experimentally induced hypersensitivity was the mechanism capable of causing the periodontal destruction. Albino rabbits were sensitized by intravenous injections of 5% horse serum. After confirming the response of the animals to the production of antibody, challenge was performed at time intervals by inserting horse serum-soaked thread into gingival crevice.

The control group was treated with thread soaked in sterilized saline. Antigen and saline-soaked thread were also inserted into the crevices of unsensitized rabbits in the same manner.

The results obtained are summarized as follows :

1. Acute inflammatory changes were produced in the periodontium by once placement of antigen-soaked thread in crevice of sensitized rabbits.
2. The severity of inflammatory changes was increased when challenge procedures were once every-day for three days and three times a week for one month than single treatment in the experimental group.
3. Histologically, these changes included thrombosis of the vessels, infiltration of lymphocytes and plasma cells in the connective tissue and ulceration of crevicular epithelium.
4. In the alveolar bone, osteoclasts were increased markedly in experimental group of sensitized rabbits.
5. Slightly inflammatory changes were occurred in control group and unsensitized rabbits, but hardly absenced osteoclasts and thrombosis.

Effects of Diphenylhydantoin on salivary gland and liver tissue in experimental dogs

Dong Sun Moon, Jae Hyun Lee, Jong Eun Kim

Department of Periodontology, College of Dentistry, Seoul National University.

The purpose of the present experiment is to clarify the effects of the diphenylhydantoin on salivary gland and liver tissue. Twelve young adult dogs of about 6 month old with permanent dentition were used as experimental animals. Those animals divided into four groups : Group I Control group ; Group II Local irritation group; Group III Dilantin administered plus local irritation; and Group IV Dilantin administered group. Dilantin was given orally with daily dosage of 7mg per kilogram of the body weight. Those animals were sacrificed at intervals of 37, 44, and 50 days and fixed in 10% neutro-formalin solution.

The tissue was prepared in serial section and staining process was made with Hematoxylin-eosin, Vangieson, R. N. A., and P. A. S. staining. The results obtained are summarized as follows :

1. The histologic features of salivary gland and liver tissue showed no difference between the control and the local irritation group.
2. Severe inflammatory changes were occurred with inflammatory cell infiltration such as plasma cells, lymphocytes, and macrophages, necrosis and loss of lobular structure. Inflammatory signs were severe on 50days compared with 37 and 44 days.
3. No inflammatory changes were occurred in the dilantin administered group and Dilantin administered plus local irritation group, however, fibrous degeneration and atrophy of the salivary glands were shown in above groups. Fibrous degeneration and atrophy of the salivary glands were severe on the 50th day compared with 37th and 44th day.
4. Generally the histologic signs were severe in the dilantin administered plus local irritation group than in the dilantin administered group.

Immunopathological studies on the inflamed gingival tissues

Sang Mook Choi

Department of Periodontology, College of Dentistry, Seoul National University

Recently it has been suggested that the antigenic factor by oral bacteria resident in the gingival pocket is responsible for the hypersensitivity which causes periodontal diseases. The present research attempts to prove the localization of immunoglobulins in the human inflamed gingiva by using a fluorescence antibody technique. Out of cases the human inflamed gingiva were excised from periodontal patients and applied fluorescent antibody technique for the detection of the localization of immunoglobulins. The tissue obtained were immediately put into 95% cold ethanol and passed through cold absolute alcohol and xylene. The principal technique employed in these studies was Sainte-Marie's method. Paraffin embedding and sectioning were also performed with the same method.

The results are as follows :

1. There were no significant relationships of the localization of immunoglobulins in epithelial layer between normal and inflamed gingiva, but in connective tissues, there were relationship between gingival inflammation and the localization of immunoglobulins.
2. The distribution of intense specific fluorescence of immunoglobulin in epithelial layer was classified as 3 types :
 - a. localized in basal cell layer
 - b. all of the epithelial layer especially in intercellular spaces
 - c. at randomly in prickle cell layer
3. The bundles of the connective tissue fibers reacted intensely.