

● 당뇨병환자 치은의 미세구조에 관한 연구

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3명의 정상환자와 진행성 치주염에 걸린 8명의 당뇨병 환자에서 절취한 치은조직을 광학및 전자현미경으로 비교관찰한 결과 당뇨병 환자에서 다음과 같은 결론을 얻었다.

1. 모세혈관의 기저막(Basement Membrane)이 비후되어 있고, 내피세포의 세포질이 내강(Lumen)을 향하여 여러개의 Flap을 형성하고 있다.
2. 교원섬유속(Collagen Fiber Bundle)의 파괴 및 섬유아세포의 퇴행성 변화가 나타난다.
3. 상피세포 및 내피세포의 사립체(Mitochondria)가 퇴행성 변화를 나타낸다.
4. 결합조직내에 림파구(Lymphocyte)와 형질세포(Plasma Cell)가 심하게 침윤되어 있다.

● 염증성 치은조직의 Immunoglobulin농도

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健康한 齒齦, 齒齦炎이 있는 齒齦 및 齒周炎이 있는 齒齦에서 單純放射免疫擴散法으로 Ig濃度を 定量하여 다음과 같은 結果를 얻었다.

健康한 齒齦에서 IgG는 平均 8.760g/mg dry tissue이고 IgA는 平均 2.33g/mg dry tissue이었으며 比較的 폭넓게 分布하고 있었다.

齒齦炎이 있는 齒齦에서 IgG는 平均 10.33g/mg dry tissue이고 IgA는 平均 3.58g/mg dry tissue이었으며 健康한 齒齦群과 比較하면 IgG濃도가 增加하였다.

齒周炎이 있는 齒齦에서 IgG는 平均 10.14g/mg dry tissue이고 IgA는 平均 4.56g/mg dry tissue이었으며 健康한 齒齦群과 比較하면 IgA濃도가 增加하였다.

IgG와 IgA는 모든 試料에서 定量되었으나 IgM은 2個의 試料에서 檢出되었다.

● 치주질환과 당뇨병의 연관성에 관한 연구

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糖尿病이 齒周疾患에 미치는 影響을 研究하기 위해, 慶熙醫院 內科와 齒周科에 來院한 糖尿病 患者 54名을 調査群으로 하고 非糖尿病 患者 34名을 對照群으로 하여, Ramfjord²⁶⁾의 齒周疾患指數, 齒苔指數 및 齒石指數를 利用하여 檢査하였고, 糖尿病의 罹患期間, 調節樣相과 血糖値와의 關係를 比較觀察하여 다음과 같은 結論을 얻었다.

1. 齒周疾患指數, 齒苔指數 및 齒石指數는 糖尿病 患者에서 非糖尿病 患者에 비해 共히 有意하게

The ultrastructural study on gingival changes in diabetes mellitus patients with periodontal disease

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Eleven patients were divided into two groups, Group I consisted of three normal patients for control and Group II consisted of eight patients undergoing advanced periodontal disease with diabetes mellitus for patient. Each specimen was observed by light and electron microscopes.

The results were as followings in diabetes mellitus patients :

1. The basement membrane of capillary was thickened and the cytoplasmic flaps of endothelial cell increased.
2. The disruption of collagen fiber bundles and the degeneration of fibroblast were appeared in the connective tissue.
3. The mitochondria in the epithelial and endothelial cells showed degenerative changes.
4. The lymphocytes and the plasma cells were infiltrated massively in the connective tissue.

Immunoglobulin concentrations in inflamed gingiva

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The purpose of this study is to research the immunoglobulin concentrations in the gingiva and the relationship between immunoglobulin concentrations in periodontal disease. The patients, who came to the Dept. of Periodontics of Kyungpook National University Hospital, were selected for samples. They were suffering from gingivitis and periodontitis through the survey of clinical and radiological examination.

Author divided all of them who participated in the experiment into 3 groups : control group, gingivitis group and periodontitis group. Maxillary and mandibular facial gingival specimens were obtained from the three groups of patients during routine treatments.

After resection of the gingival tissue (5×3×3mm), homogenized it with Potter-Elvehjem teflon pestle glass homogenizer and lyophilized it and performed the measurement of its weight to 1/100mg. After that, performed the radial immunodiffusion assay.

The results were as follows :

In healthy gingiva, IgG concentrations was average 8.76µg/mg dry tissue and IgA concentrations was average 2.33µg/mg dry tissue.

In gingivitis, IgG concentrations was average 10.33µg/mg dry tissue and IgA concentrations was average 3.58µg/mg dry tissue.

In periodontitis, IgG concentrations was average 10.14µg/mg dry tissue and IgA concentrations was average 4.56µg/mg dry tissue.

IgG concentrations in gingiva was increased in gingivitis.

IgA concentrations in gingiva was increased in periodontitis.

IgM was detected two or three of the 16 specimens in healthy and inflamed gingiva.

The relationship between periodontal disease and diabetes mellitus

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The purpose of the present study was to research the relationship between periodontal disease and blood sugar level, mode of control and duration of diabetes.

The patients, who came to the dept. of internal medicine and periodontology in Kyung Hee University Hospital, were randomly selected for sample and blood sugar level was measured by enzyme method by means of Spectrophotometer(Coulter Co., England). The participants of this study were 54 diabetic patients and 36 non-diabetic patients. Author examined the periodontal condition and evaluated by Remfjord's periodontal disease index, plaque index and calculus index.

The results were as follows :

1. The mean value of periodontal disease index, plaque index and calculus index of diabetic patients were significantly higher than those of non-diabetic patients($P < 0.001$, $P < 0.05$, $P < 0.05$).
2. According to the increase of duration of diabetes, periodontal disease index and calculus index were increased and their difference of each group was statistically significant ($P < 0.025$, $P < 0.05$).
3. According to the elevation of blood sugar level, periodontal disease index and plaque index were increased.
4. The mean value of periodontal disease index was the highest insulin treated group, oral hypoglycemic agent administered group was the second place and diet control group was the lowest.
5. There was no correlation between insulin dosage and periodontal disease index, plaque index and calculus index.

The relation between development variations of tooth morphology and periodontal disease

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The purpose of this study is to observe the relation with periodontal condition in abnormality of the tooth such as palatogingival groove and cervical enamel projection.

For this study, 65 maxillary lateral incisors having palatogingival groove and 149 molars having enamel projections were selected from the patients who visited Kyung Hee University Hospital.