● 이환 치은조직내 Cytokeratin과 fibronectin에 관한 면역조직화학적 연구

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치주낭 형성이 치주낭 상피세포의 분화도의 상피하 결합조직내 fibronectin의 분포에 미치는 영향을 규명하기 위하여 조선대학교 치과대학 부속치과병원 치주과에 내원한 환자들 중 성인형 치주염 환자 22명과 특발성 치은 증식증(Idiopathic gingival hyperplasia) 환자 5명에서 치은판막술과 치은절제술을 시술하면서 치주낭 깊이가 6mm 이상인 치주낭조직만을 절취하여 통법에 따라 조직표본을 제작한 후 hematoxylin-eosin 염색과 Masson's trichrome염색을 하였으며, 치주낭상피내 cytokeratin의 면역염색 반응도를 관찰하고자 생쥐에서 생성된 두가지 단클론성 세포각질항체 즉 34βb4와 34βe12를 일차항체로 이용하고, 염소에서 생성된 biotinylated goat antimouse IgG를 이차항체로 하여 Avidin-Biotin-peroxidase Complex(ABC)법으로 면역염색을 시행하였고, 결합조직내 fibronectin의 분포양상을 관찰하고자 토끼에서 형성된 일차항혈청과 염소에서 형성된 이차항혈청을 이용하여 습윤상자내에서 ABC법으로 면역조직화학적 염색을 시행한 후 광학현미경으로 관찰하여 다음과 같은 결론을 얻었다.

1. 구강 치은상피에서 cytokeratin의 34βb4에 대한 면역염색도는 유극세포층 상부와 과립층에서만 강한 양성반응을 보였고, 34βe12에는 기저세포층의 미약한 양성반응과 함께 전층에서 양성반응을 보였으며, 각화층은 두가지 단클론성 세포각질항체에 모두 매우 미약한 양성반응 또는 음성반응을 보였다.
2. 염증성 치주낭 및 증식성 위낭 상피에서 cytokeratin의 면역염색도는 기저세포층과 유극세포층보다 표층과 중간층에서 더 강한 양성반응을 보였다.
3. 증식성 위낭피에서는 치주낭 기저부까지 cytokeratin의 양성반응이 관찰되었으며, 염증성 치주낭상피에서는 치주낭 기저부상피보다 치관부상피에서 더 강한 양성반응을 보이는 뚜렷한 차이가 관찰되었다.
4. 염증성 치주낭과 비염증성 위낭조직공히 fibronectin은 치은상피 직하부의 결합조직 유두돌기 부위에 주로 분포하였으며, 교원섬유속의 중심부 보다는 변연부에서 섬유아세포 주위에 산재되어 나타났다.
5. 염증성 치주낭상피 직하부 결합조직에서는 fibronectin이 기저막으로부터 다소 거리를 두고 심부 결합조직의 혈관주위에서 염증세포침윤과 함께 집중 분포하는 특징적 소견을 보였다.
6. 결합조직내의 fibronectin은 원형, 난원형, 과립형 및 길게 늘어진 띠모양 등 다양한 형태로 나타났다.

● 치근이개부 골소실 정도에 따른 방사선학적 진단에 관한 실험적 연구

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치근이개부와 치간중격의 골파괴 정도에 따른 변화를 방사선상에서 평가하기 위하여 구치부가 존재하는 성인의 건조 하악골 3개를 사용하여 좌, 우측 하악 제1, 제2대구치에 치간중격병소와

at baseline and 4 weeks. All patients were evaluated by double-blind technique after periodontal treatment and at 4, 8 weeks Dentinal hypersensitivity was measured by subjective questionnaire, response to saturated 100% sucrose solution, tactile pressure stimulus, and electrical stimulus.

In was suggested that all treatment methods were effective in treatment of dentinal of dentinal hypersensitivity, but fluoride with iontophoresis was more effective than two dentifrices groups ($p<0.05$). Strontium chloride was more effective than SMFP in treatment of dentinal hypersensitivity ($p<0.05$). Responses to 100% sucrose solution and tactile pressure were improved as time interval, but significant difference was not found between treatment groups.

An immunohistochemical study of cytokeratin and firbonectin in disease human gingiva

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To determine the effect of pocket formation on differentation of pocket epithelial cells distribution of fibronectin in subepithelial connective tissue, the gingival tissues with deep periodontal pocket over 6mm were excised through operation and gingivectomy in patients with adult periodontitis and idiopathic gingival hyperplasia, in department of periodontics, infirmary of school of dentistry, Chosun university.

Each specimen sectioned in 4~6μm thickness was stained with hematoxyline-eosin stain and masson's trichrome stain, and followed by immunohistochemical stains for cytokeratin in epithelium and for fibronectin in connective tissue.

In the immunohistochemical stain for evaluation of differentiation of epithelial cells, two monoclonal antikeratin antibodies, 34βb4 which was specific for cytokeratin of 68Kd and 34βe12 which was specific for cytokeratin of 56Kd/68Kd, were used as primary antibodies, and biotinylated goat antimouse antibody was used as secondary antibody. After treatment with 0.1% trypsin for 30 minutes at room temperature, specimens were stained by Avidin-Biotin-peroxidase Comples(ABC) method under wet condition.

For the immunohistochemical localization of fibronectin in connective tissue by ABC method under wet condition, rabbit immunoglobulin to human IgG and biotinylated goat antirabbit IgG were used as primary and secondary antiserum, respctively.

By light microscopic observation, following reslts were obtained :

1. In oral gingival epithelium, the immunoreactivity of cytokeratin to 34βb4 was strong positive in the upper spinous layer and the granular layer, and reactivity to 34βe12 was positive in all cell layers with mild positive reaction of the basal cell layer. The comeal layer showed mild positive or negative reaction to both monoclonal antibodies.
2. In the inflammatory pocket and the hyperplastic pseudopocket epithelium, the immunostain reactivity of cytokeratin was stronger positive in the superficial layer and the intermediate layer than in the basal cell layer and the spinous layer.

3. In hyperplastic pseudopocket epithelium, the positive reaction of cytokeratin was showed in entire area including pocket base region, and in inflammatory pocket epithelium, the remarkable difference that immunoreactivity was stronger positive in coronal half than in apical half was observed.
4. In both inflammatory pocket and non-inflamed pseudopocket tissue, Fibronectin was predominantly distributed in the connective tissue projection subjacent to gingival epithelium, and it was distributed around fibroblasts more in peripheral region than in central region of collagen fiber bundles.
5. In the connective tissue subjacent to inflammatory pocket, the specific finding was observed that a number of fibronectin were localized with inflammatory cell infiltration around blood vessels in connective tissue apart from basement membrane.
6. Fibronectin in connective tissue was revealed in various shapes such as round, oval, granular, and long stretched band-like shape.

An exeprimental study on the radiographic diagnosis related to degree of the bone loss of furcation area

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This study was performed to evaluate to evaluate the efficacy of roentgenogram in detecting alveolar bone loss, and to compare the long cone paralleling technique with the conventional bisecting technique.

Artifical furcal and interproximal defects simulating pathologic conditions were made in the first and second molar region of 3 dried human mandibles. The jaw was stabilized for standarization and the serial roentgenograms were taken under the same condition until any difference of film density were appeared on the roentgenograms and compared with the actual lesions.

After roentgenograms of the lesion had been taken by long cone paralleling technique and conventional bisecting technique, each of them was compared with the actual appearance of the defects.

The obtained results were as follow :

1. The first evidence of radiolucency of interradicular bone was not seen until the half of buccolingual diameter was removed, and there was no radiographic difference between the removal of buccal aspect and that of lingual one.
2. The simultaneous removal of buccal and lingual bone made earlier radiolucency than one side removal of those at interradicular area.
3. Comparing with bisecting technique, paralleling technique was recommended for the radiographic interpretation of interproximal and furcal defects.
4. The size of radiolucent image was smaller than of actual defect.
5. Radiolucency was predominantly influenced by presence or abscence of the cortical plate.