방추형의 다각형 또는 마름모 모양을 이루어 정상과 유사하게 편평하였고, 진행된 치주염에서는 세포간 경계가 불분명한 볼록한 형태의 타원형 또는 다각형, 치주 농양에서는 세포 주위 경계가 말려올라가며 탈락되는 장방향을 이루어 불규칙한 표면구조가 관찰되었다.

2. 세포의 크기는 한변의 길이가 정상은 10~30μ, 진행된 치주염은 18~23μ, 치은 증식증은 18~29μ, 박리성 치은염은 15~40μ, 치주 농양은 27~40μ이며, 재발성 아프타성 치은 궤양은 40~42μ, 으로 관찰되었다.
3. 세포의 표면 형태는 정상에서 미세융기가 pitted appearance를 이루어 벌집모양과 같은 양상을 이루고, 치은 증식증은 정상과 거의 유사한 일부에서는 지문 형태를 나타내는 것으로 보였다. 진행된 치주염은 미세융기가 서로 엉겨 또다른 커다란 형태의 벌집모양을 이루고, 재발성 아프타성 치은 궤양은 분화구 모양의 함몰 형태가 많이 관찰되었으며, 치주 농양에서는 미세융기가 분해되어 microvilli모양으로 불규칙하게 세포 표면에 솟아 있는 것이 관찰되었다.
4. 박리성 치은염에서의 세포 표면 형태는 세포의 일부중, 미세융기가 분해되어 물집모양 또는 microprocess의 형태를 이룬 세포들이 특징적으로 많이 관찰되었다.
5. 치주 농양과 진행된 치주염에서는 다양한 형태의 적혈구, 섬유소 잔사, 세균 및 염증세포가 보였으며, 특히 치주 농양의 누공 부위에서는 결체조직이 노출되어 있음이 관찰되었다.

## ● 초기 국소유년형 치주염의 질병진행에 관한 임상적, 미생물학적 및 면역학적 연구

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치주질환 중 그 독특한 질병양태에 의해 많은 관심이 되고 있는 국소유년형 치주염의 초기질병진행양상을 연구하기 위해 13,644명의 고등학교 학생을 검진하여 그중 9명의 환자를 선택하였다. 환자의 제일대구치 근심쪽 치주낭을 선택하여 치은열구 출혈지수, 치태지수, 치은열구 삼출액, 치조골 흡수도, 부착상실도(loss of attachment)등의 임상지수 및 위상차 현미경을 통한 치은연하 세균상, 주요치은연하 세균의 배양분리등의 세균학적 검사를 실시하였다.

9개월간 환자를 치료없이 관찰한 후 다시 같은 임상지수, 세균학적 검사, 그리고 효소 면역흡착법에 의한 혈청내 주요세균에 대한 면역 글로부린양, 다핵액 백혈구의 화학주성도등의 면역학적 검사등을 실시하고 치조골흡수도와 부착상실도를 기준으로 질병 진행군과 비진행군으로 분류, 검정을 실시하였든바 다음과 같은 결과를 얻었다.

1. 치은열구 출혈지수, 치태지수, 치은열구 삼출액 등은 질병진행과 연관이 없었다.
2. 세균의 morphotype간의 차이는 질병진행과 연관이 없으나 호기성세균이 감소하는 것은 질병진행과 큰 상관관계가 있었다.
3. Actinobacillus actinomycetemcomitans는 진행군에서 비진행군보다 훨씬 다수 관찰되었으나 black pigmented bacteroides나 Capnocytophaga등 다른 주요 세균은 두군간의 차이가 없었다.
4. 다형핵 백혈구의 화학주성도는 진행 및 비진행군에서 비슷하게 나타났다.
5. 혈청내 A. actinomycetemcomitans에 대한 IgG량은 치조골 흡수도를 기준으로 한 진행군에서 비진행군보다 높게 나타났으나 다른 세균에 대한 양은 두군에서 큰 차이가 없었다.

fallen leaves. Gingival epithelia of the above had surface

2. While in normal giniva gingiavl epithelia were10-30μ in length, in dilantin hyperplasia, 18-19μ in desquamative gingivitis, 15-40μ in length, in periodontal abscess, 27-40μ in length recurrent aphthous ulcer, 40-42μ in length.
3. While in normal gingiva, gingival epithelia had a honeycomb appearance or pitted appear ance and microridges were observed apparently, in dilantin hyperplasia, some of epithelia were simailr to normal gingiva and some had finger print appearance, in dperiodontitis, gingival epithelia had another larger honeycomb appearance than gingiva and microridges fused with each other, in recurrent aphthous ulcer, gingival epithelia had many crater-like depressions and in periodontal abscess, gingival epithe irregularly grown up microvilli due to disintegration of microridges.
4. In desquamative gingivitis. some of gingival epithelia had characteristic blebs or microprocess due to disintegration of microridges.
5. In periodontal abscess and advanced periodontitis, variable forms of erythrocytes, fibrin remnants. bacteria and inflammatory cells were observed and especially connective tissues were observed in periodontal abscess.

## Clinical, microbiological and immunological studies on the progression of localized juvenile periodontitis

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Nine patients were selected to investigate the progression of early localized juvenile periodontitis (LJP) in clinical, microbiological and immunological aspects. Clinical parameters such as Sulcus Bleeding index, Plaque index, gingival crevicular fluid flow, alveolar bone resorption and loss of attachment were measured at the mesial pocket of a first molar. Microrbiological studies included determination of bacterial morphotype proportion by phase contrast microscope and culture studies of predominant cultivable microflora. After 9 month without any treatment, same clinical and microbiologial parameters were again measured. Immunological studies of serum antibody level by enzyme-linked immunosorbent assay(ELISA) in addition to polymorphonuclear leukocyte(PMN) chemotaxis inhibition by modified Boyden chamber method were also performed at this time.

The subjects were divided into two groups-progressing and nonprogressing based on the changes in values of alveolar bone resorption and loss of attachment. The data was statistically analyzed and following results were obtained.

1. Sulcus Bleeding index, Plaque index and gingival crevicular fluid flow are not correlated with progression of disease.
2. Bacterial morphotype showed no association with progressing of disease but reduced value of aerobic microoiganisms revealed close relation with progression of bone resorption.
3. Actinobacillus actinomycetemcomitans were more frequently isolatd in progressing group than in nonprogressing group, while other microorganisms such as black pigmented bacteroides and

Capnocytophaga showed no significant difference in frequency between progressing and nonprogressing group.

4. PMN chemotaxis inhibition was observed in same frequency both in progressing and nonprogressing group.
5. Serum IgG level to A. actinomycetemcomitans presented higher value in nonprogressing group than in progressing group based on bone resorption, while serum igG levels of some patients in progressing group were almost similar with normal subject.

These results suggested that frequency of isolation and antibody levels to A. actinomycetemcomitans might be the relevant factor for determination of progression of early localized juvenile periodontitis and longterm evaluation has to be done to clarify more influencing factors of disease progression.

## The effect of drinking alcohol on the permeability of gingival sulcular epithelium

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To determinate the effect of drinking alcohol on the permeability of capillary in gingival tissue, thirty one male subjects ; 19 to 25 years old, with general health and no missing teeth except third molar were selected from volunteers of dental students of Chosun University.
2㎖ per body weight(㎏) of distilled water, 25% and 40% ethanol were orally administered to selected subjects at regular one-week interval.

The amount of gingival crevicular fluid of upper right first molar and lower left central incisor was measured by PERIOTRON(HARCO Electronics, Canada) from 30 minutes to 6 hours after administration of each experimental solution, and blood pressure, pulse rate and body temperature were subsequently checked.

Each score change between before and after administration of experimental solution was statistically analyzed by student t-test and ANOVA.

The following results were obtained :

1. Regardless of gingival inflammation, the amount of gingival crevicular fluid was increased in manimum value at 2 hour after administration, gradually reduced by time passed, and in 6 hours finally returned to the baseline value.
2. In posterior tooth than anterior tooth, the amount of gingival crevicular fluid was increased in greater extent and the returning time to baseline value was prolonged.
3. The effect of drinking alcohol on the permeability of gingival sulcular epithelium was earlier and longer in healthy gingiva than inflamed gingiva.
4. Both systolic and diastolic blood pressure were not influenced by alcohol drinking($P>0.1$), regardless of alcohol concentration.
5. By 2-hour after alcohol drinking, drinking, both pulse rate($P<0.01$), and body temperature($P<0.01$) were significantly increased.
6. The effects of drinking alcohol on gingival crevicular fluid, pulse rate, and body temperature were persisted longer in higher concentration of alcohol.