

PAS반응은 기존상피의 basal lamina 및 신생상피 basal lamina에서 모두 양성으로 나타났고, 기존상피의 경우가 양성반응이 컸으며 양쪽군의 차이가 발견하지 못했다.

5. 치은절제술 2주 후에는 양쪽 공히 결체조직내에 Spindle Shaped cell이 현저히 증가됐고, organization도 활발히 진행되었다.  
PAS반응은 신생상피와 기존상피의 basal lamina에서 반응도에 별 차이가 없었다.
6. 치은절제술 3주 후에서 5주까지 epithelial rete peg이 점점 더 발달하고, 결체조직의 organization도 증가하였으며, 치은 contour도 정상에 가까워졌다.
7. 치은의 염증도는 전기간을 통하여 실험군에서 심하게 나타났다.
8. 치은의 퇴축은 실험의 1주일 정도부터 관찰할 수 있었는데 실험군이 심했다. 이것은 5주까지 계속되었다.
9. 치은의 Swelling은 2주부터 소실되었고 2주부터 5주까지는 치은염이 blunt하고 rolled된 양상을 띠었다.
10. White-Pinkish한 치은의 color가 4주까지 계속되다가, 5주째 정상적인 pale-pink로 환원되었다.

## ● 정상치은과 염증성 치은에 있어서 비만세포의 전자현미경적 관찰

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Histamine과 Heparin을 방출함으로써 염증조직에 조직 화학적으로 관여한다고 생각되는 비만세포를 관찰하기 위하여 임상적으로 정상치은과 염증성치은의 상악진치부 pocket lining에서 2×3×3 mm 조직편을 절취하여 전자 현미경으로 관찰하여 다음과 같은 결과를 얻었다.

1. 비만세포는 치은결합조직에서 광범위하게 발견되며, 모세혈관 주위에서도 다수 관찰된다.
2. 그 형태가 다양하고, 수많은 microvilli가 발견된다.
3. 특성적인 과립을 다수 함유하고 있으며, 그 형태가 다양하다. 즉 straight, Curved lamellae, scroll-like configuration, coarse or fine or homogeneous appearance 그리고 crystalline configuration.
4. 염증성 치은에서는 정상 치은보다 과립이 잘 발달되어 규칙적으로 배열된 scroll-like configuration, fine homogeneous granular appearance, crystalline configuration을 보여주며 정상 치은에서는 과립이 대부분 coarse reticular electron dense substructure와 less dense reticular network로 이루어져 있다. 이외에 뚜렷한 차이점을 관찰할 수 없었다.

## ● 수종 치약의 치태형성 억제 효과에 관한 비교 연구

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치아균태는 구강내 세균의 집합체로서 치은염과 치주질환 및 치아 우식증의 주요원인으로 알려져 왔으며 이 문제를 해결하기 위한 가장 보편적인 방법으로 치약에 의한 칫솔질 방법이 가장 효과적인

1. As the time elapsed, in the control group, plaque index increased with significance ( $P < 0.005$ ), while in experimental group it didn't. ( $P > 0.05$ ).
2. A difference between effect of ZCM and that of PM was significant on 1, 3 day ( $P < 0.025$ ), and on the 5 day ( $P < 0.01$ ), 7, 10, and 15 day it was very significant ( $P < 0.005$ ).
3. ZCM produced a lower plaque index than that of PM ( $P < 0.025$ ). This means that there are antiplaque effect in ZCM. effect

## A histochemical comparative on the healing of periodontal tissues following gingivectomy with scalpel and electrosurgery

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The purpose of the present paper is to compare the histochemical observations of healing responses of connective tissue and epithelium, additionally formation of basal lamina, after gingivectomy with electrosurgery or conventional scalpel. A routine gingival resection was carried out in 12 rabbits.

These procedures were performed very cautiously in both groups. The specimens were taken 1 hour, 1day, 3days, 1 week, 2wks, 3wks, 4wks, 5wks., after surgery. The specimens were sectioned and stained with H-E Van Gieson, PAS reaction. And then they were studied clinically and histochemically.

It may be concluded that :

1. The signs of inflammation were more prolonged in experimental group.
2. In experimental group, epithelization of the wound was retarded as compared to the control group.
3. The PAS reaction showed no differences between the 2 groups.
4. Gingival recessions were more severe in experimental group.
5. In experimental group, gingival contour was completed later than in control group.

## The ultrastructural study of mast cell associated with normal gingiva and inflamed gingiva in human

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There are certain features that identify mast cells-namely, the round nucleus, the large cisternae, the light cytoplasm, and the characteristic granules.

The human connective tissue mast cells in periodontal disease have general cytologic feature common to those in other site, including normal gingiva.

The granulus are the most prominent features of mast cells and are no doubt intimately connected

with their complex biochemical function.

The granular variation may be dependent on difference in preparatory techniques. In cross section, granules have the appearance of a scroll, but in longitudinal section appear cylindrical.

Weinstock and Albright discriminated between a simple granule which has an amorphous or granular internal structure or scroll-like features and compound granule which is irregularly outlined, consists of either parallel dense lines or hexagonal crystals in the form of a honey comb, and also exhibits a crystalline internal structure.

The lamellar structure of the mast cell granules may probably be considered a characteristic of human mast cells and until now, similar lamellar structures have not been found in animal mast cells.

By Thiery, the granules considered mature had regularly arranged parallel lamellae of almost equal thickness crystalline pattern partially covered the fine granular material and incompletely single-layered membrane with low density, whereas the granules considered immature had randomly arranged lamellae with faint periodicity which are on the way to a parallel arrangement.

Barnett discriminated between the ultra structural features of the mast cells in normal gingiva and in inflamed gingiva. The mast cells in normal gingiva are more uniformly rounded in shape, rarely sending out long cytoplasmic processes. Their nuclei seldom contain indentations and nucleoli, and Golgi zones, too, are not especially conspicuous. Whereas, the mast cells in inflamed gingiva has a more active cytologic features. The prominent nucleolus and extensive Golgi zone are seen in these cells and immature granules are often present in proximity to them.

Moreover, signs of degranulation are seen at the cell periphery.

In this regard, the finding that mast cell microvilli participate in granule release is of interest.

In normal gingiva, the granules show coarse reticular electron dense substructure and less dense reticular network. In inflamed gingiva, the granules show well-arranged lamellar structures, scrolled lamellar structures, parallel-arranged crystal-line structures and fine granular structures.

But the other conspicuous differences between the mast cells of normal gingiva and inflamed gingiva are not demonstrated in this paper.

Although this results don't completely confirm, the morphologic changes of mast cell granules in inflamed gingiva may be suggested the results of inflammatory response and a little more detailed study should be performed.

Freedman, Listgarten & Taichman(1968) observed numerous mast cells in tissue with periodontal disease but no instances of mast cell degranulation. Thus, although morphologic studies may lead to speculations regarding mast cell function in chronic inflammatory disease, the actual function can be proved only by more dynamic studies of cell physiology.

Although mast cell function is generally discussed in terms of vasoactive substances, especially histamine which is synthesized and released by tissue mast cells, it is likely that such action is significant only transiently during the initial inflammatory response.

Mast cell function is usually based on the presence of histamine, heparin and in some species, serotonin(5-hydroxytryptamine). And until now, there has been no conclusive evidence that 5-hydroxytryptamine exists in human mast cells.

Because histamine can effect vasodilatation and increase vascular permeability, it has been thought to be involved in the production of the vascular changes seen in this early inflammatory response.

Thus, mast cells have occasionally been situated in perivascular and have been associated with the pathogenesis of early inflammation.

In regard to heparin as an adjunct to agents resulting in tissue degradation, it is also interesting to recall that this agent has been found to be a "bone resorption stimulating co-factor" invitro. enhancing the resorption-stimulating effects of otherwise suboptimal level of such agents as parathyroid hormone.

Although the mechanism of mast cell involvement is not clear, evidence suggests that an antigen-antibody reaction effects mast cell degranulation, with release of histamine and proteases which may be responsible for the mucosal changes.

Degranulation of mast cells may occur as response to substances that liberate histamine, such as polymyxin B, compound 48/80, stilbamidine, toluidine blue and protamine sulfate and etc.

Histamine release has been described as a two-part processes ; the histamine-carrying heparin-protein complex is first extruded from the cell into the extra cellular space by an energy-requiring mechanism, and then the cationic histamine molecule is exchanged with cations of the extra cellular compartment and thus released from the heparin molecule.

Gustafson and Pihl found that staining with uranyl acetate and lead citrate does not specifically increase the electron density of mast cell granules.

By electron staining, uranyl acetate is considered to be affinitive to protein and ribonucleic to be affinitive to protein and ribonucleic acid, and lead citrate to poly saccharide-rich material and ribonucleic protein. In this study, the lamellar structures which are protein-rich were preferably found affinitive to uranyl acetate, and the granular materials which are polysaccharide-rich to lead citrate.

## Comparative effectiveness of different dentifrices on the dental plaque control

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It has been established that proper oral hygiene (brushing) is the most effective method available today for preventing and/or reducing the severity of inflammatory periodontal disease.

However, effective plaque control by this method is generally achieved only by patients who are above average in dental knowledge, motivation.

Until this time, many chemotherapeutic agents have been reported for plaque control purpose, such as chlorhexidine, antibiotics, enzymes, quarternary ammonium compounds and phosphoramidates, and organic and inorganic fluorides.

But these agents can not be safely administered for long-term control of bacterial plaque. These compounds are limited in their usefulness due to 1) local or systemic side effect, 2) lack of clinically significant effectiveness, and 3) inadequate experimental evidence.

Bibby et al. demonstrated that inorganic fluoride could change oral microbial metabolism and reduce plaque formation. Shiota described that sodium fluoride was bacteriocidal at a concentration of 600 PPM for 2 hours (PH 6.9). But clinical trials in humans have failed to demonstrate a plaque-reducing