

3.  $Al(ClO_3)_3$ 를 도포한 부착치은과 치조점막에서는 각화도가 증가하였으며 pyknosis의 정도는 변화 없었다.
4.  $Na_2PO_3F$ 로 처리한 부착치은 및 치조점막에서는 각화 및 pyknosis의 영향을 미치지 못하였다.

● **염증성 치은조직의 Fusobacterium과 Staphylococcus 항원의 국재성에 대한 면역병리학적 연구**

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臨床的으로 齒周疾患으로 診斷된 患者에서 切除한 齒齦組織 50例에 對해서 fusobacterium과 staphylococcus抗原의 局在性을 螢光抗體法을 利用하여 檢索한 結果 다음과 같은 結論을 얻었다.

1. staphylococcus를 抗原으로 하는 螢光抗體液染色液에서 齒周疾患患者 50例中에서 28例(56%)에서 菌體나 菌體生成物을 檢出하였다.
2. fusobacterium을 抗原으로 하는 螢光抗體液染色液에서 齒周疾患患者 50例中에서 22例(44%)에서 菌體나 菌體生成物을 檢出하였다.
3. staphylococcus檢出 28例와 fusobacterium 檢出 22例中 두 種類의 菌體나 菌體生成物이 함께 檢出된 例는 12例(42.9%)이었으며 staphylococcus만의 檢出은 16例(50.7%)이며 fusobacterium만의 檢出은 10例(45.5%)이었다.
4. 特異螢光是 菌體以外에 喰食細胞인 組織球나 中性多核白血球와 또한 淋巴球, 形質細胞 등에서 發見되었다.
5. 大多數의 螢光陽性的 菌體性分은 上皮의 乳頭部 또는 上皮層 直下部的 結合組織의 組織破壞나 炎症細胞의 浸潤이 甚한 部分에서 檢出되었다.

● **염증성 치은에 있어서 Alkaline 및 Acid Phosphatase의 활성도에 관한 연구**

이 만 섭

서울대학교 대학원 치의학과 치주병학 전공

저자는 서울대학교 치과대학에서 얻은 정상치은 7례와 1974년 9월 1일부터 9월 30일까지 서울대학교 치과대학 부속병원 치주병과에 내원하는 환자에서 얻은 염증성 치은 20례에서, Bessy-Lowry씨 방법으로 alkaline 및 acid phosphatase의 활성도를 측정된 결과 다음과 같은 결론을 얻었다.

1. alkaline phosphatase의 활성도는, 정상치은에서  $195.9 \pm 21.3 \mu\text{moles p-nitrophenol released/hr/g wet tissue}$ , 염증성치은에서는  $287.8 \pm 57.7$ 이었다.
2. acid phosphatase의 활성도는, 정상치은에서  $70.6 \pm 9.9 \mu\text{moles p-nitrophenol released/hr/g wet tissue}$ , 염증성치은에서는  $105.2 \pm 21.1$ 이었다.
3. 염증성치은은 정상치은보다 alkaline 및 acid phosphatase 활성도가 매우 증가했다.
4. gingival score가 증가할 수록, 즉 염증정도가 심할 수록, alkaline 및 acid phosphatase 활성도가 증가되었다.

● 청장년 성인에 있어서 Sulcus bleeding index

박 중 차

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한국인 100명을 성별 구별없이 20~30세의 Young Adults에서 치은염의 발생빈도를 알기위하여 치아면을 근심 또는 원심 유두치은, 협측 또는 설측 변연치은의 4개면으로 나누어 검사하였다.

Gingival inflammation scoring system은 1971년 Mühlemann & Son의 Sulcus Bleeding Index의 Criteria에 의해서 다음과 같이 결론을 얻었다.

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|--|------------|
| 1. (1) 근심유두치은의 평균치는 (± 표준편차)                       | 0.83± 0.77 |
| (2) 원심유두치은의        "               "               | 0.83± 0.76 |
| (3) 협측변연치은의        "               "               | 0.82± 0.71 |
| (4) 설측변연치은의        "               "               | 0.76± 0.71 |
| 2. (1) 상악전체의 평균치는 (± 표준편차)                         | 0.85± 0.77 |
| (2) 하악전체의        "               "                 | 0.76± 0.71 |
| (3) 좌측면의        "               "                  | 0.81± 0.76 |
| (4) 우측면의        "               "                  | 0.82± 0.76 |
| 3. 전체적인 Sulcus Bleeding Index의 평균치는 0.81± 0.71이었다. |            |

## Immunopathological studies on localization of Fusobacterial and Staphylococcal antigen in the human inflamed gingiva

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This study was performed to detect the localization of cellular component of staphylococcus and fusobacterium by using fluorescent antibody technique. Gingival biopsy specimens were taken from fifty patients diagnosed as clinically periodontal disease. The tissues obtained were immediately put into 95% cold ethanol and passed through cold absolute ethanol and xylene by Sainte-Marie's method. Paraffin embedding and sections were stained with hematoxylin eosin and fluorescent antibody technique by Marshall's method.

Rabbit antiserum to staphylococcus and fusobacterium isolated from the sulcus of inflamed human gingivae was prepared. The specificity of antiserum was confirmed by Ouchterlony micro-double diffusion method. Fluorescein isothiocyanate was conjugated with the globulin fraction of rabbit antiserum.

The results were obtained as following :

1. In fluorescein-labelled staphylococcus antiserum, 27 cases were revealed fluorescence-positive in the gingival tissue.
2. In fluorescein-labelled fusobacterium, 22 cases were revealed fluorescence-positive.
3. Among 28 cases of fluorescein labelled anti-staphylococcus and 22 cases of fluorescence labelled anti-fusobacterium, 12 cases were revealed mixed two kind of bacteria, 16 cases showed only staphylococcus and 10 cases showed only fusobacterium respectively.
4. Specific fluorescence was proved not only in bacterial mass but in histiocytes and polymorphonuclear leukocytes
5. The most fluorescence positive in bacterial mass was revealed in papillary layer of epithelium, and connective tissue of subepithelial layer in which were severely tissue destruction and inflammatory cell infiltration.

## Studies on the activities of Alkaline and acid Phosphatase in inflamed gingiva

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The author has obtained the following results after measuring the activities of alkaline and acid phosphatase in the 7 cases of normal gingiva and the 20 cases of inflamed gingiva under the Bessy-Lowry method which took p-nitrophenyl phosphate as the substrate :

1. The activity of alkaline phosphatase indicated a mean of 195.9  $\mu$ moles p-nitrophenol released/hr/g wet tissue with a standard deviation of 21.3 in the normal gingiva, against a mean of  $287.8 \pm 57.7$  in the inflamed gingiva.
2. The activity of acid phosphatase indicated a mean of 70.6  $\mu$ moles p-nitrophenol released/hr/g wet

tissue with a standard deviation of 9.9 in the normal gingiva. against a mean of  $105.2 \pm 21.1$  in the inflamed gingiva.

3. Inflamed gingiva showed more increase in the activities of the alkaline and acid phosphatase than normal gingiva.
4. As the gingival score increased, viz., as the degree of inflammation became higher, the activities of the alkaline and acid phosphatase became enhanced.

## Sulcus bleeding index in young adults

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A summary of the mean mesial and distal P. G. labial and lingual M. G. Maxillary and Mandibular area, left right side, total areas S. B. indices were shown in table 2.

Table 2. Sulcus Bleeding Index in young Adults (Subject No. 100)

Surface	Mean	S. D.	Significance
Mesial	0.83	0.77	N. S
Distal	0.83	0.76	
Lingual	0.76	0.71	N. S
Buccal	0.82	0.71	
Maxilla	0.85	0.77	N. S
Mandibule	0.76	0.71	
Left	0.81	0.76	N. S
Right	0.82	0.76	
Total	0.81	0.71	

N. S. = none significant.

1. The mean value of mesial and distal P. G. were calculated  $0.83 \pm 0.77$ ,  $0.83 \pm 0.76$ , No significant difference was found between mesial & distal papilla
2. The mean value of labial and lingual M. G. was  $0.82 \pm 0.71$ ,  $0.76 \pm 0.71$ .  
The occurrence of gingival inflammation on labial and lingual marginal gingiva was nearly same.
3. The total mean value of maxillar and Mandibular area were calculated  $0.85 \pm 0.77$ ,  $0.76 \pm 0.71$ .  
The significance of this two area was not shown.
4. The mean value of left and right sides were calculated  $0.81 \pm 0.76$ ,  $0.82 \pm 0.76$ .
5. Totally, average sulcus bleeding index in young adults were calculated  $0.81 \pm 0.71$ .

An average score of 0.81 corresponds clinically to a very mild gingivitis.

It is evident therefore that bleeding from the gently probed sulcus precedes considerably the appearance of gingival color change.

Bleeding is the leading and first clinical sign of marginal gingivitis.

Jamison (1960) reported that six teeth (Maxillary right first molar, maxillary left first bicuspid, maxillary left central incisor, mandibular left first molar, mandibular right first bicuspid, mandibular right