

있었다. 또한 치주조직 창상치유에 대한 혈액응고인자 XIII의 정맥주사에 의한 효과와 도포의 효과는, 조직학적으로는 약간의 차이를 인정할 수 있었으나 육안적 소견은 거의 동일한 것으로 나타났다.

● 칫솔모의 형태 및 연마제가 치은상피와 치태세균에 미치는 영향에 대한 주사현미경적 연구

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저자는 칫솔모의 모양과 치약내 함유된 연마제에 따라 치은 및 치태세균에 미치는 영향을 연구하기 위하여, 성견 5마리 중, 1마리는 대조군으로 4마리는 각 실험일수에 따라 3, 7, 15, 30일군으로 나누어 끝이 뾰뚱하고 거칠은 것과 부드럽고 둥근 것의 두가지 종류의 칫솔과 연마제가 45%와 32%가 함유된 치약을 각각 사용하여, Bass 방법의 칫솔질을 함으로써 상피치은 및 치태의 변화에 대하여 주사현미경적으로 관찰한 바 다음과 같은 결과를 얻었다.

1. 끝이 뾰뚱하고 거친 칫솔을 사용한 경우가 부드럽고 둥근 칫솔을 사용한 경우보다 각화치은상피의 손상이 더 심했으며 시일이 경과하여도 그 손상은 완전히 회복이 되지 않았다.
2. 상피표면구조내의 미세융기(microridge)의 형태는 마모제가 많이 함유된 치약을 사용한 경우가 마모제가 적게 함유된 치약을 사용한 경우보다 심한 와해현상을 보였다.
3. 실험군의 치은열구내의 치태세균의 양은 대조군에 비하여 현저한 감소를 보였으며, 실험군간에는 뚜렷한 차이점을 나타내지 않았다.
4. 실험군 치은열구내의 나선형(spiral)의 세균은 집단으로 모여있지 않고 흩어져 있었으며, 이곳에서는 옥수수모양(corn cob), 시험관솔(test tube brush)형태의 세균도 발견할 수 없었다.

● Prostaglandin E가 백서 치주조직에 미치는 영향에 관한 실험적 연구

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저자는 백서 65마리를 3군으로 나누어, 대조군에는 0.1ml의 생리식염수를, 실험 II군에는 2.5 μ g의 PGE를 0.1ml생리식염수에 용해시켜 백서 치조골막상에 주사하고, 실험 I군에는 4-0-silk 결찰에 의한 실험적 치주질환을 야기시켜 치주조직의 변화를 병리조직학적으로 비교 관찰하여 다음과 같은 소견을 얻었다.

1. 염증 세포 침윤은 실험 I군(silk 결찰군)에서만 보였고, 혈관 충혈 및 증식 그리고 상피층의 극세포증 및 유주는 실험 I, II군(PGE 투여군) 모두에서 나타났다.
2. 골흡수상 및 파골세포의 출현빈도는 실험 I군에서 제일 많이 나타나고 그리고 실험 II군, 대조군 순으로 나타났다.
3. 파골세포의 출현은 실험 I군에서 3일째 급격히 상승하였다가 5일째 부터는 급격히 감소하였

The transmission and scanning electron microscopic study on the effect of blood coagulation factor XIII upon periodontal wound healing

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It was the purpose of the present study to investigate the effect of blood coagulation factor XIII on periodontal wound healing by topical application and intravenous injection, respectively, with scanning and transmission electron microscope.

For this study, 84 male inbred albino rabbits were divided into four groups : 1) control group, 2) blood coagulation factor XIII-deficient group induced experimentally by infusion of antirabbit plasma coagulation factor XIII-goat immunoglobulin, 3) rabbit blood coagulation factor XIII-intravenously injected group and 4) rabbit blood coagulation factor XIII-topically applied group. Each group was consisted of 1, 2, 3, 5, 7, 14 and 21 day subgroup. And then, following gingivectomy, light, transmission electron and scanning electron microscopic observation were done in each subgroup.

The results were as follows :

1. The cross-linking of fibrin was noted on the 3rd day in control group and on the 1st day in factor XIII-treated, i. e. intravenous injected or topically applied group. However, no cross-linking of fibrin could be seen in factor XIII-deficient group during the experimental period.
2. The proliferation of capillaries and fibroblasts were noted on the 7th day in control group, on the 3rd day in factor XIII-treated group, but in factor XIII-deficient group, those were noted on the 14th day.
3. The completion of epithelial regeneration was noted on the 14th day in control group, on the 7th day in factor XIII-treated group, but it was noted on the 21st day in factor XIII-deficient group.
4. The fibrosis was noted on the 21st day in control group, on the 14th day in factor XIII-treated group, but in factor XIII-deficient group, no fibrosis could be seen during the experimental period.

These results suggest that blood coagulation factor XIII-deficient state retards the periodontal wound healing, however, intravenous injection or topical application of blood coagulation factor XIII accelerates it, respectively.

In histological findings, intravenous injection of blood coagulation factor XIII accelerated the periodontal wound healing a little more rapidly than topical application, but clinical effects were almost same.

Scanning electron microscopic study on the influence of gingival epithelial change and plaque bacteria using different toothbrushes and abrasives

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The purpose of this study was to research the changing of the gingival epithelium, plaque formation

using different toothbrushes and abrasives through scanning electron microscope.

The experiment was performed with five adult dogs, and two kinds of toothbrushes in which one with the end of bristles were hard and rough, the other with smooth and round. Also, two types of tooth pastes with 45% and 32% abrasives content were used.

After 3, 7, 15 and 30 experimental periods with the Bass toothbrush method, the result was examined under scanning electron microscope.

The result of this study were as follows :

1. Rough and hard toothbrush group showed more damage to gingival epithelium than the other one, and the damage was recovered only a little during the experimental period.
2. The experimental groups with high contents of abrasives showed more disintegrated changes of microridge in the surface of epithelium in the gingiva.
3. The numbers of plaque forming microorganism in the experimental groups showed less than control group in the gingival sulcus. And plaque was formed at the defected area also, but there was no significant differences among the experimental groups.
4. In the gingival sulcus, the spiral type microorganisms were found as scattered, but not as a group. Also the microorganisms of corncob type and test-tube brush type were not found.

Experimental study on the effects of prostaglandin E to the periodontal tissues in rats

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This study was undertaken to observe histopathologic changes of periodontal tissues in rats after daily administration of prostaglandin E(PG E) and insertion of dental floss silk in interproximal area.

In this experimental study, sixty-five rats were used and divided into the control and two experimental groups. Fifteen rats were subperiosteally injected 0.1cc normal saline solution as placebo in control group. In experimental groups, each twenty-five rats in group I were ligated the cervical area of tooth with dental floss silk and in group II were subperiosteally injected 2.5 μ g, PG E daily.

Thereafter, rats were serially sacrificed on 1st, 3rd, 5th, 10th and 20th day after injection of normal saline solution(control group) and PG E(experimental II group) and ligation of dental floss silk(experimental I group). The experimental area were excised out, and made the original slides cut with a thickness of 7 μ and stained with hematoxylin and eosin, Gomori's and Masson's method.

The result of this study were as follows :

1. Infiltration of inflammatory cells in connective tissues were found in experimental I group only, but congestion and proliferation of blood vessels and acanthosis and migration of epithelium were appeared in both experimental groups.
2. Resorption of alveolar bone and the numbers of osteoclast in control, experimental II, and experimental I group were increased in the order named.