

● Centella asiatica의 치주조직 치유에 미치는 영향에 관한 연구

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광학현미경하에서, 상피의 각화와 분화상태, 결체조직의 변화 치조골의 치유과정, 전자현미경에서 상피, 결체조직, 기저막의 상태와 교원섬유의 배열, 합성, 변이 및 염증세포의 분포특징을 관찰하여 Centella asiatica의 추출물인 madecasin을 투여한 군과 대조군을 비교하고자, 8마리의 성견에서 우측을 donor site로, 좌측은 골막을 남긴상태에서 Free gingival graft를 시행하여 4일 1주, 2주, 3주 간격으로 회생시켰다.

절취한 Block은 고정, 탈회, 탈수, 포매과정을 거쳐 H-E염색, PAS염색, 및 van Gieson에 염색을 하였고 전자현미경 관찰을 위하여 glutaraldehyde-formalin-phosphate 완충용액에 고정후 다시 Millonix fixative에 고정하여 탈수시킨 후 포매시켜 염색하였던 바 다음과 같은 결과를 얻었다.

1. 4일 표본에서 이식된 기저층 세포가 건전하게 잔존하며, 기저막은 PAS염색에 반응을 보였다. 실험군에서는 대조군에 비해 상피의 분화와 전이정도가 우월하였고, 결체조직의 변성정도는 미약하였다. 한편, 염증세포의 침윤은 적었으나, 염종의 감소에 대한 효과는 확실치 않았다.
2. 1주 표본에서는 실험군에서 상피의 전이가 완전 종결되고, 결체조직의 섬유아세포 분화가 활발한 것이 특징적이었고 대조군에서 보다는 치유과정이 빨리 진행됨을 보여주었다.
3. 2주, 3주 표본에서는 실험군과 대조군의 치유현상에서 큰 차이를 발견할 수 없었다.
4. 치조골의 치유에 있어서는 실험군에서 4일 표본의 비교결과 파골세포가 적게 나타나고 골아세포의 증식이 활발함을 보였다.

● 여성 호르몬이 백서치은 말초 혈관에 미치는 영향에 관한 전자 현미경적 연구

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여성호르몬인 progesterone과 estrogen을 백서 대퇴부 근육내에 주사한후 2시간, 1, 3, 10 및 24일에 회생시켜 구치부 치은조직을 절취하여 혈관 내피세포의 변화를 광학현미경 및 전자현미경으로 관찰한 결과 다음과 같은 결론을 얻었다.

1. progesterone투여군에서는 전 실험기간을 통하여 말초혈관 내피세포의 결합부위의 개방을 볼 수 있었고 소포들은 투여기간이 길수록 증가하였으며 10일후 부터는 내피세포내 외막이 협착되어 개창을 보이기 시작하고 신생말초혈관의 출혈을 볼 수 있었다. 내피세포내의 형질내세망의 팽대는 24일 후부터 사립체의 증가와 더불어 현저해졌고 글로코겐 과립이 소실되면서 핵의 함몰형 변형도 유의할만 하다.
2. estrogen투여군에서는 1일후 부터 혈관 내강쪽으로 세포질 돌기의 발달을 볼 수 있었고 투여기간이 길수록 더욱 현저해졌고 내피세포내의 형질 내세망도 발달하였다.

위와같은 관찰결과 여성호르몬은 치은조직의 말초혈관에 대하여 형태학적인 변화를 염증반응과 상관없이 독립적으로 일으킬 수 있음을 알 수 있었다.

The influence of centella asiatica on healing of periodontal tissue

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The effects of *Centella asiatica* on wound healing following free gingival autograft were evaluated histochemically in 8 adult mongrel dogs. They were divided into control and experimental group, and each group consisted of 4 dogs.

After surgical treatment, intramuscular injection of extracts of *Centella asiatica* immediately was performed. Staining technique was performed with, H & E stain, PAS stain, van-gieson stain and trichrome for histochemical study.

The results were as follows.

1. In four days free gingival graft specimens, grafted basal cell layers were remained intactly in control and experimental groups. In the experimental group prominent migration and proliferation were observed and proliferation of fibroblasts were accelerated with less inflammatory infiltration, to compared with those of the control group.

Osteoclastic activity at the alveolar crest was less prominent in experimental group than that of control group.

2. In one week specimen, experimental group showed marked epith healing response will have to await clinical healing trends monitored in larger group of experimental animals.
2. Histological finding on chloroform-methanol plus citric acid and citric acid specimen showed less epithelial migration than HCl and control groups.
3. On chloroform-methanol plus citric acid specimens the rapid and active formation of cementoid tissue and new bone were clearly noted at 3 and 4 weeks.
4. Chloroform-methanol plus citric acid and citric acid groups showed well orientation of new periodontal ligament at 4 weeks.
5. Resorption and formation of alveolar bone in chloroform-methanol plus citric acid particularly were active at 2 weeks than the remaining groups.

An ultrastructural study in the microvasculature of the rats gingiva treated by female sex hormones

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Thirty female Albino Rats weighing 150–200g were divided into treated group and Group II estrogen-treated group and Group III control group. In each group, intramuscular injection with 1 mg of progesterone or 0.02 mg of estrogen or same volume of blank solution per 100g body weight was done on the area of tibia daily. The rats were sacrificed at the different treated terms ; 2 hours, 1, 3, 10, and 24 days after injection.

1. In the progesterone-treated group, there was a prominent opening at the intercellular junctions of the endothelial cells during the whole periods of this experiment and increased pinocytotic vesicles in the endothelial cytoplasm in proportion to the duration of the treated terms. After 10 days cytoplasmic fenestration and proliferation of endothelial cells was observed. After 24 days endothelial cells were characterized by well developed rough endoplasmic reticulum (RER) associated with increased mitochondria and deep folded nucleus but glycogen granules in the cytoplasm disappeared.
2. In estrogen-treated group, after 1 day numerous cytoplasmic processes toward the lumen of the small blood vessels and well developed RER observed. This typical appearance did not disappear and became more prominent.

Histologic study on the effects of madecassol on gingival wound healing

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The effects of madecassol on wound healing following partial and full thickness flap were evaluated histochemically in 8 adult mongrel dogs. They were divided into control and experimental group, and each group consisted of 4 dogs.

After surgical treatment, intramuscular injection of extracts of *Centella asiatica* immediately was performed. Biopsies were taken immediately before sacrifices, which were performed 4, 7, 14, 21 days after surgical procedure.

For staining, H-E stain technique was used. Within the limits of experiment, the results were as follows.

1. In the experimental group prominent and rapid epithelization was observed in both procedure.
2. New connective tissue cells, and proliferation of fibroblasts were accelerated with less inflammatory infiltration, to compared with those of the control group.
3. The response of the alveolar bone in the experimental animal revealed that osteoclastic activity at the alveolar crest was prominent and rapidly ceased in both procedures.

A histologic study of the effect tetracycline administered orally on periodontitis in the rat

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A histological study was done to observe the influence of tetracycline administered orally on periodontitis in Sprague-Dawley rats. Twenty-five male rats were arranged into two groups, one group received 21 mg of tetracycline hydrochloride each day for 30 days in drinking water. Periodontitis was induced