

치는 섬유아세포를 분리 배양하면서 배양액 내에 혈청과 여러 농도의 섬유아세포 성장인자를 첨가하여 섬유아세포의 성장변화를 [<sup>3</sup>H]-thymidine incorporation 방법으로 측정하였고, 섬유아세포가 합성하는 단백질의 변화를 5% polyacrylamide gel electrophoresis로 측정하여 다음과 같은 결과를 얻었다.

1. 배양액 내에 섬유아세포 성장인자를 10ng/ml 농도로 첨가하여 배양한 경우 대조군에 비하여 세포성장이 증가하는 경향을 보였으나 통계적인 유의성은 없었다.
2. 배양액 내에 30ng/ml의 섬유아세포 성장인자를 단독으로 첨가하여 배양한 경우 대조군에 비하여 세포성장의 성장이 큰 차이가 없었으며 FBS단독 첨가시 및 FBS와 30ng/ml의 섬유아세포 성장인자를 동시에 첨가 배양한 경우 대조군에 비하여 세포성장이 현저히 증가하였으나 섬유아세포 성장인자에 의한 부가적인 세포성장촉진효과는 관찰되지 않았다.
3. 배양액 내에 50ng/ml의 섬유아세포 성장인자를 단독으로 첨가 배양한 경우 대조군에 비하여 세포성장이 약 3배 정도 증가하였으며, bovine serum(FBS) 단독 첨가시 및 FBS와 50ng/ml의 섬유아세포 성장인자를 동시에 첨가할 경우 뚜렷한 세포성장 촉진효과가 있었고, FBS와 섬유아세포 성장인자 복합 첨가시 그 효과는 크게 관찰되었다.
4. 배양액 내에 50ng/ml의 섬유아세포 성장인자와 2% FBS를 단독 혹은 복합 첨가하여 배양한 경우 단백질의 총량은 대조군에 비해서 증가하는 양상을 보였으나 통계적인 유의성은 없었다.
5. Conditioned media와 세포추출물을 전기영동후 Coomassie blue stain 및 Silver stain에 의해 섬유아세포에서 합성되는 몇몇의 단백질 band를 확인할 수 있었으며, 섬유아세포 성장인자를 50ng/ml의 농도로 첨가하여 배양한 경우 fibronectin 및 procollagen으로 추정되는 단백질 합성이 약간 증가하는 양상을 나타내었다.

● 치술의 재질에 따른 치태제거 효과 및 강모의 마모에 관한 연구  
 - 강모직경의 차이에 관한 연구

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치술 강모의 직경에 따른 치태제거 효과 및 사용기간에 따른 강모의 마모도를 관찰하여 치과의사가 필요로 하는 치술의 규격을 정하는 기초를 만들기 위하여 건강한 한국인 19세부터 27세까지의 남성 13명, 여성 14명 등 27명을 대상으로 시판되는 직경이 서로 다른 치술 4종류의 규격을 조사하고 스크러빙 법으로 치술질을 사용하여 Ramfjord방법에 의한 6개의 피검치를 대상으로 12주간 치태제거 효과 및 강모의 마모도를 비교, 분석한 결과 다음과 같은 결론을 얻었다.

1. 스크러빙 법으로 치술질시 평균 치태 제거율은 78.8%였다.
2. 강모의 직경이 가장 굵은 치술이 전체 치태제거율에서 81.8%로 가장 높고 치간 부위의 치태 제거율은 직경이 가장 가늘고 모의 수가 제일 많은 치술이 79.0%로 다른 치술보다 높은 치태제거 효과를 나타냈다.
3. 부위별로는 모든 치술에서 협면의 치태제거율이 설면보다 유의성 있게 높았다.
4. 치술의 강모는 사용기간이 길어짐에 따라 강모의 직경이 가늘게 되었다.

ning 50% FBS for 7~10 days. After treatment with trypsin-DETA, the collected gingival fibroblasts were cultured in  $\alpha$ -MEM with 10% FBS until confluency was reached.

After 24 hour incubation in serum-free media, control groups were cultured in fresh serum-free media, while experimental groups were cultured in serum-free media containing various concentrations of FGF, 2% FBS or both.

Cell proliferation was determined by [<sup>3</sup>H]-thymidine incorporation rate into DNA, and proteinis produced by cultured gingival fibroblasts were determined by SDS-PAGE of conditioned media and cell lysate.

The obtained results were as follows.

1. In case of incubation of the cultured gingival fibroblast in the suerm-free media containing FGF(10 ng/ml), it was shown the tendency of cell proliferation as comparison with the control group, but statistically not significant(Table 1).
2. In the event of incubation of the cultrued gingival fibroblast in the serum free media containing FGF(30ng/ml) and FGF(30ng/ml) plus Fetal bovine serum. The 1st case was statistically not significant, the 2nd case was significantly higher than the control group(talbe 2).
3. In case that the cultured gingival fibroblast was cultivated in the serum free media containing FGF 50ng/ml, the cell growth rate was three times as much as the control group. A case of the combined incorporation of FGF 50ng/ml and 2% FBS, the cell proliferation effect was significantly higer than the control group(table 3).
4. The total protein amount about the effects of serm free media containing FGF(50ng/ml) and FBS was slightly increased but statistically not significant(table 4).
5. After the conditioned media and cell extracts was carried out ellectrophoresis, several protein bands were identified by silver stain. The molecular weight of procollagen and fibronectin was showed positive band for the serum free media containing FGF 50ng/ml(Fig. 2).

## A study of the plaque removing effect and wearness of bristle on different types of toothbrushes

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The purpose of this study was to determine the plaque removing effect and wearness of bristle on different types of toothbrushes.

Available four toothbrushes, according to bristle diameter, were examined their sizes and diameter of bristles were observed by stereomicroscope. Twenty-seven volunteers (13 male, 14 female : 19yrs. to 27 yrs) participated in this study. The subjects were randomly assigned into four groups by a third person who did not participate in the experiment, each group was subjected to one of the tooth brushes.

The subjects were performed using scrubbing technique. The amount of plaque was assessed by the same investicato for a period of 12 week.

At the same time, bristle diameter of each brush was observed by stereomicroscope. The data from the clinical examinations were computerized and analyzed statistically.

The results were as follows :

1. Mean results were as follows :
2. The toothbrush with the largest bristle diameter had the best cleansing effect in the total areas. In the proximal areas, the toothbrush with the thinnest bristle diameter and the highest number of filament was the best effective.
3. There was significant difference between buccal and palatal surface.
4. The diameter of bristle was decreased as the using period became longer.
5. While using the toothbrushes, and shape of bristle was become round or mushroom-shaped.

### The study of the etiology and prevalence of gingival recession in dental patients

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The purpose of this study was to investigate the incidence, distribution and etiology of gingival recession of the dentition.

For this study, 251 patients (93 males, 158 females ; from 16 years to 77 years) were selected from the patients who visited in dental clinic.

Linear measurements were made from the cemento-enamel junction to the gingival crest. Measurements at the middle were recorded on the facial and lingual of each tooth surface.

The results were as follows :

1. The incidence rate of gingival recession was variable from 20.6% in the 16--25 age group to 96.6% in the 46--77 age group. The gingival recession increased in both numerical occurrence and linear dimension with age.
2. The rate of gingival recession is higher in male than female and is rather in maxilla than mandible, but statistically no significant differences.
3. The most pronounced location of gingival recession was in following order ; 1st premolar, canine and molar in maxilla and incisor, 1st premolar and 2nd premolar in mandible.
4. The mean gingival recession of individual tooth was significantly more prevalent on both right and left 1st molar of maxilla and prevalent on lower central incisor.
5. The most important etiologic factors of gingival recession were toothbrushing trauma and inflammation. The other etiologic factors were malalignment, calculus and prosthesis in sequence.