하였다.($p<.001$)

3. 치주 질환과 치아 우식증으로 인한 발거의 비율은 각각 남성에서는 24.9%, 19.4%, 여성에서는 13.8%, 26.4%로, 남성에서는 치주 질환에 의한 발거가, 여성에서는 치아 우식증에 의한 발거가 우세하였다.($p<.001$)
4. 치주 질환과 치아 우식증으로 인한 발거의 비율은 각각 상악에서는 25.2%, 23.7% 하악에서는 14.9%, 22.1%로, 상악에서는 치주 질환으로 인한 발거가, 하악에서는 치아 우식증으로 인한 발거가 더 빈번하였다.($p<.01$)

● 혈소판유래성장인자가 치주인대세포의 증식에 미치는 효과에 관한 연구

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PDGF는 섬유아세포와 횡문근세포에 강한 주화성과 증식효과가 있는 생화학적 물질로서, PDGF가 섬유아세포와 골에 미치는 효과에 대해서는 많은 연구가 있었으나 치주인대세포에 미치는 효과에 대해서는 거의 없는 실정이다. 이에 PDGF가 치주인대세포의 증식에 미치는 효과를 알아보기 위하여 치조조직이 건강한 제1소구치에서 치주인대를 채취하여 치주인대세포를 배양한 후, PDGF를 작용시키지 않은 군을 대조군으로 하고, PDGF를 각각 2, 5, 10, 20 및 50ng/ml의 농도로 작용시킨 군을 실험군으로 하여, 작용후 2일과 3일에 세포수를 산정하고 총단백질량을 측정하여 다음과 같은 결론을 얻었다.

1. PDGF의 농도에 따른 세포수는 2일과 3일에서 모두 증가하였으며, PDGF군의 작용기간에 따른 세포수 산정결과 2일의 2ng/ml의 농도를 제외하고는 2일과 3일의 모든 농도에서 대조군에 비하여 유의성 있는 증가를 보였다($p\vee0.05$)m
2. PDGF 농도에 따른 세포수 증가양상은 2일군과 3일군 모두 20ng/ml의 농도에서 대조군보다 각각 약 2배 정도인($11.06\pm1.14)\times10^4$cell/ml, ($13.54\pm2.26)\times10^4$cell/ml를 보여 최대의 세포수 증가를 나타내었다.
3. PDGF 농도에 따른 총단백질량의 변화양상은 세포수의 증가 양상과 유사하게 나타나서 2일군에서는 20ng/ml의 농도에서 2.42 ± 0.28ug/ml, 3일군에서는 10ng/ml의 농도에서 3.5 ± 0.30ug/ml로서 최대치를 나타내었다.
4. 기간에 따른 세포수 증가와 총단백질량의 변화는 전농도 모두 3일군이 2일군에 비해 높은 경향을 보였고, 3일군의 증가양상은 2일군과 비슷하였다.

이상의 결과 PDGF는 치주인대세포의 증식을 촉진시키며 그 효과는 PDGF의 농도가 20ng/ml일때 최고의 효과를 보였으며, 2일군에 비하여 3일군에서 치주인대세포가 많이 증식되었고 그 양상이 유사하여 증식효과는 시간에 따라 지속될 것으로 사료된다. 앞으로 더 많은 연구와 추적관찰이 요구되나, 이상의 연구결과 PDGF는 치주조직재생에 유용할 것으로 사료된다.

Investigation of the relationship between periodontal disease and dental caries by comparing the reasons given for the extraction of permanent teeth

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In the present study, a possible relationship between periodontal disease and dental caries was examined retrospectively by comparing the percentages of teeth extracted owing to periodontal disease and to caries.

The materials were 2585 permanent teeth extracted from 1251 patients at the Department of Dentistry of the Pusan National University Hospital in 1990. The chart recordings and radiographs of all extracted teeth were available for analysis. The principal reasons for tooth extraction were defined into ten categories.

The frequency of extraction due to dental caries and to periodontal disease was compared by the patient's age, sex and the types of teeth.

1. Eruption problem was the most frequent cause for extraction(50.1%), followed by dental caries (22.8%) and periodontal disease(19.4%).
2. More teeth were extracted due to caries than to periodontal disease before 40 years of age and after 40 years of age more teeth were lost owing to periodontal disease than to caries.($p<.001$)
3. In males, the extraction due to periodontal disease was more frequent than to dental caries whereas, in females, the extraction due to caries was more frequent than to periodontal disease.($p<.001$)
4. In the upper jaw, the extraction due to periodontal disease is more frequent than to caries whereas, in the lower jaw, the extraction due to caries is more frequent than to periodontal disease.($p<.01$)

The effects of human platelet derived growth factor on the proliferation of human periodontal ligament cells

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Platelet Derived Growth Factor(PDGF) has the potent chemotactic and proliferative effect on fibroblasts and smooth muscle cells. There were many researches on the fibroblasts and bone cells, but at now there are insufficient data of the effect of PDGF on the periodontal ligament (PDL) cells.

The purpose of this study is to evaluate the effects of PDGF on the PDL cells. Human PDL cells were prepared from the first premolar tooth extracted for the orthodontic treatment and were cultured in DMEN/10% FBS at the 37°C, 5% CO_2 incubator.

The concentrations of PDGF-BB were as follows : 2ng/ml, 5ng/ml, 10ng/ml, 20ng/ml and 50 ng/ml. In the PDGF group, cell numbers were estimated by counting cells under the microscope and the total protein contents were compared with cell numbers on 2nd and 3rd day respectively.

The observed results were as follows :

1. The PDGF group showed the concentration-dependent increment of cell numbers on 2nd and 3rd day.
   PDGF stimulated significantly PDL mitosis at all concentration except at the concentration of 20ng/ml on 2nd day.
2. The maximum effect of PDL proliferation was observed at the concentration of 20ng/ml PDGF on 2nd day and 3rd day.
   Its effect was about two-fold in crement than control group.
   At that concentration, cell numbers were$(11.06\pm 1.14)\times 10^4$ cell/ml and $(13.54\pm 2,26)\times 10^4$ cell/ml respectively.
3. Total protein contents was increased according to the concentration of PDGF. The maximum effect was at the concentration of 20ng/ml PDGF on 2nd day and 3rd day respectively.
4. On 3rd day, total protein contents and cell numbers were more increased than on 2nd day at all concentrations of PDGF, thus more researches and follow up studies of PDGF effect PDL proliferation remain to be evaluated but this study suggests that PDGF can be the effective adjunctives on the periodontal regenerative therapies.

A histopathologic study on the distribution of inflammatory cells in the periodontal lesions

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This study was performed to determine the distribution of inflammatory cells in the inflammed gingiva of periodontal lesions. Gingival tissues were obtained from 30 persons with healthy, gingivitis, adult periodontitis, rapidly progressive periodontitis, and localized juvenile periodontitis. These tissues were processed for H-E staining and observed by means of the light microscope.

The results were as follows :

1. In normal gingiva, there are scattered and slight inflammatory cell infiltration within subepithelial connective tissue and distribution rate of lymphocyte, plasma cell, PMNLs and macrophage is 85.00%, 11.90%, 1.47% and 1.28%.
2. The lesion of gingivitis shows mild infiltration of inflammatory cell within sub-epithelial connective tissue and distribution rate of lymphocyte, plasma cell, PMNLs and macrophage is 62.60%, 33.91%, 1.50% and 1.74%.
3. The lesion of adult periodontitis shows severe dense infiltration of inflammatory cell within sub-epithelial connective tissue and distribution rate of lymphocyte, plasma cell, PMNLs and macrophage is 20.40%, 75.50%, 1.70% and 2.20%.
4. The lesion of rapidly progressive periodontitis shows severe dense infiltration of inflammatory cell within sub-epithelial conncetive tissue and distribution rate of lymphocyte, plasma cell, PMNLs and macrophage is 14.80%, 80.20%, 2.20% and 2.58%.