이상의 연구결과 치료후의 Aa등의 미생물 변화와 임상 및 면역학적 변화와 관련이 있음을 암시하고, 질환의 진행과 관련된 특이항원에 관한 연구가 더 필요한 것으로 사료된다.

● 30% Minocycline을 함유한 Polycaprolactone Film의 생체내 방출역학에 관한 연구

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국소약물송달에 의한 치주질환 치료제를 개발하기 위하여 polycaprolactone에 minocycline을 30% 결합시켰으며 생체외 및 생체내의 약물방출실험을하여 다음의 결론을 얻었다.

1. minocycline을 30% 함유한 polycaprolactone(두께 200± 100μm)은 생체외 방출실험에서 약물방출의 반감기가 16시간이었으며, 최고방출기는 초기 2시간째였고, 7일간의 방출실험 후에는 시간당 8μg/Cm2의 양으로 약물을 방출하였다.
2. minocycline을 30% 함유한 polycaprolactone film(2.5mm×6mm, 두께 200± 10μm) 한개로부터 치주낭대로 약물이 방출되는 양상은 최고방출이 초기 2시간에 350μg/ml이었으며, 점차 감소하다 6,7일째는 3.8-6.7μ/ml의 농도를 나타내었다.
3. 생체내에서 시간당 추출되는 minocycline의 농도는 생체외방출실험에서의 방출속도와 유사한 양상을 나타내며, 같은 크기의 polycaprolactone film으로 부터 유리되는 생체외방출실험에서의 minocycline의 방출속도보다 6.35± 3.99배의 높은 수치를 나타내었다.

● 치주질환 심도와 치은 열구액 내 Arylsulfatase에 관한 연구

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치주질환으로 전북대학교 치과병원 치주과에 내원한 27세에서 62세의 환자 73명을 대상으로 하여 Brill의 방법에 따라 치은 열구액을 채취하여 효소액을 용출시킨 다음 Griffiths 등의 방법을 변형하여 arylsulfatase의 활성을 비색법으로 측정하고 각 치아의 치주낭 깊이, 치은 열구액양 및 치은 열구출혈지수와 비교하여 다음의 결론을 얻었다.

1. 실험대상자을 치은열구 출혈지수에 따라 3군으로 분류하였을 경우, 지수 2인군에서 지수 1, 3인군보다 periotron unit과 arylsulfatase공히 제일 높은 것으로 나타났다($r=0.01$).
2. 치은열구 출혈지수, periotron unit와 arylsulfatase 3가지 지수간에는 각각 치은열구 출혈지수와 periotron unit($r=0.40$), 치은열구 출혈지수와 arylsulfatase($r=0.47$), periotron unit과 arylsulfatase($r=0.47$)의 상관관계가 있었다($P<0.01$).
3. 실험 대상자를 정상 치은 열구에 가까운군(치주낭 깊이 0-3mm)와 치주낭 형성군(4-5mm)의 2군으로 분류하였을 경우 2군사이에 periotron unit과 arylsulfatase 공히 차이가 없었다($P>0.05$).

4. By Western blot analysis, a new band around 66kd was appeared 12 months after treatment.

These results suggests that treatment effects clinical, microbiological and immunological changes and progressing groups are more susceptible to treatment.

More long-term study is needed to clarify a new band around 66kd at 12 months after treatment.

In vivo release rate of 30% minocycline containing polycaprolactone film

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Local drug delivery by using biocompatible polymers has been developed in the treatment of periodontitis for many years.

The purpose of this study was to examine the in vivo release kinetics of minocycline from monolithic film prepared from polycaprolactone. Polycaprolactone(Mwt 60,000) and minocyline was dissolved by chloroform, which was vigorously stirred for 24 hours and it was dried in vacuum chamber. The thickness of cast films containing 30% minocycline was 200± 10mm. In in vivo releasing test, a bioassay was designed to measure of the amount of minocycline in measured volumes of crevicular fluid on all filter paper strips. By this assay, polycaprolactone films(2.5mm×6mm) containing 30% minocycline established initial maximum concentration of 350mg/ml in first 2 hour, and showed concentration of 4-7mg/ml in 7 days after steady state release.

This study showed that, by embedding minocycline in polycaprolactone, it is useful as a minocycline delivery system for the treatment of periodontal disease.

A study on periodontal disease severity and arylsulfatase in gingival cervicular fluid

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The Object of this study to present the diagnostic value of the arylsulfatase in gingival crevicular fluid associated with periodontal disease severity during periodontal breakdown. I investigated 73 subject aged 27-62 years showing varying degrees of periodontal disease. The filter paper strip was inserted into the gingival sulcus of the labial surface of the maxillary left central incisor and gingival crevicular fluid was collected. and then periotron units was measured. By the modification of the method of Griffiths, arylsulfatase was assayed spectrophotometrically from supernatant enzyme preparation and compared with clinical parameters such as pocket depth or SBI.

1. The periotron unit and arylsulfatase in the SBI-2 group was higher statistically than those in

the SBI-1, 3 groups($P<0.01$).

2. Correlation coefficients between S.B.I. and periotron unit, S.B.I. and arylsulfatase, periotron unit and arylsulfatase ewre 0.40, 0.47, 0.47, respectively($P<0.01$).
3. As the pocket depth increased, periotron unit and arylsulfatase also increased, but statistically not significant($P>0.05$).

The effects of scaling on the clinical parameters and subgingival microflora of human periodontal disease

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The purpose of this study was to observe the changes of the composition of bacteria in periodontal pocket and clinical index periodontal disease in the process of time after scaling, and to evaluate the lasting period of these changes.

For this, 2~4(teeth)-sites of pockets>3mm were selected in each 15 patients who came to the department of periodontics of Y university. Scalings were performed on the adjacent sites which had deep periodontal pocket.

After scaling the distribution of bacteria in periodontal pocket depth, loss of attachment, gingival index, plaque index and bleeding index the amount of crevicular fluid were observed and analyzed over a period of 18 weeks.

The results were as follows :

1. The proportion of motile bacteria decreased and the proportion of nonmotile bacteria increased through all 18 weeks.
2. The pocket depth and loss of attachment decreased through all 18 weeks but not significantly.
3. The plaque index increased significantly($P<0.01$) from 2 weeks to 10 weeks after scaling but thereafter it increased.
4. The bleeding index decreased all 18 weeks.
5. The amount of crevicular fluid decreased significantly during 14 weeks-1~10 weeks($P<0.01$), 10~14 weeks($P<0.05$)-after scaling.
6. The gingival index decreased significantly($P<0.01$) through all 18 weeks.

The clinical and darkfield microscopic study of the effect of tetracycline, locally administered via slow release system on advanced periodontitis

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This syudy was performed to assess the effect of tetracycline, locally administered via Instat®