

● 치태 추출액이 HeLa cell의 성장과 그에 미치는 독성에 관한 연구

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치태 추출액이 시험관에서 배양된 Hela cell에 대해 미치는 영향을 측정하기 위해서 치주치료를 요하는 환자의 치태를 모아 증류수에 현탁화 시킨 후 4°C, 25,000rpm에서 원침시켜 상징액 A를 얻고, 남은 침전물을 증류수에 다시 현탁화하고 20,000psi의 French Pressure Cell을 통과시켜 치태 내 세균을 분쇄한 후 4°C, 25,000rpm에서 원침시켜 상징액 B를 얻었다. 이렇게 얻은 상징액 A와 B를 milipore membrane disc로 분획한 후, 각 분획을 열처리하고 Hela cell 성장에 대한 효과를 관찰하여 다음과 같은 결론을 얻었다.

가. 치태 추출액의 Hela cell에 대한 성장억제 효과는 72시간 이후에 뚜렷했고, 96시간에 있어 상징액 B가 A보다 크게 관찰되어졌다.

나. 각 분획의 Hela cell에 대한 성장억제 효과는 상징액 A에서는 10³ dalton 이하의 분획이 다른 분획보다 다소 높게 나타났고 상징액 B에서는 10⁴ dalton 이상의 분획에서만 관찰되어졌다.

다. 치태 추출액의 세포독성은 상징액 A에서는 10⁴ dalton 이상 10⁵ dalton 이하의 분획이 가장 컸고 상징액 B에서는 10⁴ dalton 이상의 분획이 현저했다.

라. 열처리후 상징액 A에서는 HeLa cell에 대한 성장억제 효과가 감소되지 않았지만 세포독성은 감소되었다.

상징액 B에서는 성장억제 효과와 세포독성 모두가 뚜렷하게 감소하였다.

이상의 결과를 종합해 볼때, 치태 추출액이 시험관내에서 배양된 HeLa cell에 미치는 효과는 상징액 A에서는 10³ dalton 이하의 열에 안정한 저분자 물질이고, 상징액 B에서는 10⁴ dalton 이상의 열에 불안정한 고분자 물질이 기여한다고 사료된다.

● Tixocortol pivalate를 함유한 Chlorhexidine이 치은연하 치태세균 및 치은 각화에 미치는 영향

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서울대학교 치과대학병원에 근무하며 Sulcus bleeding index 1-3을 나타내는 간호원 28명을 대상으로 하여 무작위로 7명씩 네군으로 나눴다.

첫째, 생리식염수로 양치하는 군(SM) 둘째, Tiovalone(tixocortol pivalate + chlorhexidine)으로 양치하는 군(TM) 셋째, 생리식염수로 치은열구를 세척하는 군(SSI) 넷째, Tiovalone으로 치은열구를 세척하는 군(TSI)으로 나눠 28일간 매일 1회 사용케하여 SBI 치은열구액 유출량, 치태지수, 치은각화지수 그리고 치태세균의 형태를 0, 7, 14, 21, 28일에 기록하였다.

이러한 실험결과 다음과 같은 결론을 얻었다.

1. 치은열구의 유출량에 있어서, TSI군이 SM 및 SSI군에서보다 치은열구액 감소량이 컸다. 14일과 21일째는 P<0.05를 보였으며 28일째는 P<0.01를 나타냈다. 그리고 SM 및 SSI와 TM군 사이에는 차이가 없었다.

The study of the prevalence and distribution of intrabony defects in the patients with chronic periodontitis

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The purpose of this investigation was to study the distribution and prevalence of the intrabony defects as related to age, sex, tooth, and to examine the interproximal distance of adjacent root and the frequency of intrabony defects facing these roots.

The subjects comprised 116 teeth with intrabony lesions, from 445 teeth, in patients, included 24 males and 28 females, calling at the Department of Periodontology, Dental College of Kyung Hee University for periodontal treatment.

The localization of the presence of the intrabony defects and the record of the interproximal distance were performed during periodontal bone exposure and debridement.

The results were as follows:

1. The overall prevalence of intrabony defects is 26.1%, and the sex-related prevalence of the intrabony defects in man was higher than in women ($P < 0.001$)
2. The group from 51 to 60 years in age showed the highest age-related prevalence of the intrabony defects. Although the close relationship between age and prevalence of the intrabony defects was observed, there was no statistical significance ($P > 0.05$).
3. The highest and the lowest tooth-related prevalence of the intrabony defects were shown in maxillary first molar (58.5%) and maxillary central incisor (13.3%) in the maxilla, and shown in mandibular first molar (65.0) and mandibular lateral incisor (4.5%) in the mandible respectively.
4. The highest root surface-related prevalence was shown in mesial surface (59.2%)
5. The order of the defect morphology - related distribution was two-wall (52.6%), one-wall (33.6%), and three-wall (13.8%).
6. As compared with the type of periodontal pocket, the prevalence of infrabony pocket (80.2%) was higher than that of suprabony pocket (19.8%) ($P < 0.005$).
7. Wider intrerproximal distance ($3.15\text{mm} \pm 1.33$) was observed on the teeth with intrabony defects as compared with that of control teeth (2.58 ± 1.03), and there was a statistical significance ($P < 0.005$).

Effects of dental plaque extracts on cultured hela cell invitro

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The purpose of this study was to observe the effect of dental plaque extracts on cultured HeLa cells in vitro. Plaque was collected from patients requiring periodontal treatment. The plaque was pooled, and homogenised in distilled water. The mixture was centrifuged at 4°C, 25,000 r.p.m. and

the wupernatant was collected (Sup A). The remained pellet was resuspended with distilled water of equal volume as the above then was passed with 20,000 psi in French Pressure Cell and centrifuged at 4°C, 25,000 r. p. m. (Sup B).

Sup A and Sup B were fractionated by milipore membrane disc. The effects on HeLa cell growth were also observed through the heat treatment on each fraction.

The results are as follow:

1. It was evient after 72hr. that dental plaque had the inhibitory effect on cultured HeLa cell in vitro. The effect was greater in Sup B than in Sup A. after initiation of experiment on 96hrs.
2. Sup A showed the higher inhibitory effect on HeLa cell growth in fraction of molecular weight of less than 100 dalton than in other fraction. While Sup B showed the effect only fraction of molecular weight of more than 10,000 dalton.
3. Sup A had the greatest propotion of dead cell to total viable cells in fraction of molecular weight between 10,000 dalton and 100,000 dalton while sup B had it in more than molecular weight of 10,000 dalton.
4. After heat treatment, inhibitory effect on cultured HeLa cell was not reduced, but proportion of dead cell to total viable cells was reduced in Sup A. In Sup B, both the inhibitory effect and proportion of dead cell to total viable cells were reduced.

Tixocortol pivalate containing chlorhexidine mouthwashes on the subgingival plaque bacteria and keratinization on gingiva

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This investigation was undertaken to determine plaque index, gingival crevicular fluid, sulcus bleeding index, the bacterial morphotype of subgingival plaque and the degree of keratinization of gingiva according to mouthrinse and subgingival irrigation of Tiovalone and the results were as follows

1. For GCF, TSI treated group presented greater reduction than SM and SSI treated group at days 14, 21 ($P < 0.05$), and at days 28 ($P < 0.01$). No differences among SM, TM and SSI treated group.
2. In bacterial morphotype, TSI treated group showed more increased cocci and decreased motiles than SM, TM and SSI treated group at days 28 ($P < 0.05$); except spirochetes.
3. There were no significant differences among 4 groups in SBI
4. There were statistically no significant differences among 4 groups in plaque index.
5. For keratinization, there were statistically no significant differences among 4 groups.

The result of this investigation suggested that Tiovalone mouthrinse and subgingival irrigation are effective in the prevention and the control of mild gingivitis.