

## ● Actinobacillus actinomycetemcomitans SNUDC 10-1에 대한 혈청항체 역가의 연령적 변화에 관한 면역학적 연구

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서울대학교 치주과에 내원한 국소 유년성 치주염(LJP)환자의 구강내 치주낭에서 분리한 *A. actinomycetemcomitans* SNUDC 10-1에 대한 각 연령군 혈청항체 역가를 측정하기 위하여, 제대 혈액군(12명), 유아기군(1개월 3명, 1년 5명), 유치열군(12명), 혼합 치열군(11명), 사춘기군(10명), 청소년군(12명), 장년기군(10명), 국소 유년성 치주염 환자군(12명) 및 국소 후유년성 치주염 환자군(12명)에서 혈청을 채취하여, enzyme-linked immunosorbent assay법을 이용하여 관찰하였던 다음과 같은 결과를 얻었다.

1. 제대 혈액군의 혈청 IgG항체역가는 유치열기에서와 유사한 정도로 나타났고( $72.61 \pm 35.14$  EU-G to  $71.35 \pm 22.78$  EU-G), 5개월군 혈액에서 최소의 혈청 IgG항체역가를 보였으며( $3.18 \pm 3.14$  EU-G), 1세군에서부터 장년기군의 혈액까지 서서히 혈청 IgG항체역가가 증가하였다.
2. 제대 혈액군의 혈청 IgM항체역가는 음성으로 나타났고, 유치열군, 혼합치열군 및 사춘기군에서 가장 높은 혈청 IgM항체역가를 나타냈으며( $116.95 \pm 40.23$  EU-M,  $110.23 \pm 57.18$  EU-M and  $108.96 \pm 31.48$  EU-M), 청년기 및 장년기군 혈액에서는 감소 추세를 보였다( $83.41 \pm 24.06$  EU-M  $73.30 \pm 53.72$  EU-M).
3. 국소 유년성 및 후유년성 치주염(LJP and P-LJP)환자의 혈청 IgG 및 IgM항체역가는 각 정상 대조군에 비해 약 3배의 높은 역가를 나타내었다.
4. 전 실험군을 통하여 혈청 IgA항체역가에서는 통계치리에 의한 혈청항체 역가치 산출이 불가능하였다.
5. 상기와 같은 결과에서 *A. actinomycetemcomitans*에 대한 특히 혈청항체 생성이 1세군에서 시작하여, 유치열 시기에 최고에 달함을 관찰할 수 있었으며, 이로 인한 Aa균주의 감염시기를 측정함으로써 이 균주 감염에 대한 예방 및 조기진단에 크게 도움이 되리라고 생각된다.

## ● 성인성 치주염과 급성진행성 치주염에 있어서 치은열구액의 양과 교원질용해작용 및 치은연하세균의 상호관계에 관한 연구

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성인성 치주염 및 급성진행성 치주염 환자의 치은열구액의 양과 교원질용해작용 및 치은연하세균의 운동성 및 비운동성 세균의 분포비를 각각 비교 연구하기 위하여 서울대학교 병원 치과진료부 치주과에 내원한 성인병 치주염 환자와 급성진행성 치주염환자중에서 25세에서 57세사이의 17명(남자 9명, 여자 8명)을 택하여 총 42부위에서 30그램으로 삼입압이 고정된 치주탐침을 사용하여 각각 출혈 및 배농, 비배농, 비출혈 부위로 분류한 후 치은열구액의 양과 교원질용해작용 및 치은연하세균에서 비운동성 세균에 대한 운동성 세균의 비를 상호 비교한 결과 다음과 같은 결과를 얻었다.

The results were as follows :

1. The comparison between pre-and posttreatment showed little changes in the number of the supra-contacts, contacts, nearcontacts.
2. In the left the wave forms were changed in centric occlusion in 27.3% and 54.5% of the cases, respectively, one and two months after flap operation. In the right they were changed in 36.4% and 54.5% respectively.
3. The duration of tapping sound in the left was decreased significantly from 11.65msec. of pretreatment to 10.52msec., 10.11msec., respectively, one and two months after treatment. In the right it was 11.52msec., 10.50msec., 10.02msec., respectively, before treatment, one and two months after treatment.

In view of the results above, occlusal stability was considered to have increased progressively with periodontal treatment and therefore traumatic occlusion should be judged after a considerable period of posttreatment.

## Immunological study on changes with age of serum immunoglobulins reactive to *Actinobacillus actinomycetemcomitans* SNUDC 10-1

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For the investigation on the age related serum antibodies to *Actinobacillus actinomycetemcomitans* SNUDC 10-1, serum samples were obtained from umbilical cords infants(5 mos, 1 year), deciduous dentition, mixed dentition, periodontally normal puberties, periodontally normal adolescence, periodontally normal adults localized juvenile periodontitis and post-localized juvenile periodontitis.

Antibody activities to Aa SNUDC 10-1 were determined by an enzyme-linked immunosorbent assay (ELISA) using formalin fixed whole bacteria.

The results were as follows :

1. Serum IgG antibody to Aa SNUDC 10-1 of umbilical cord group was similar to that of deciduous dentition group( $72.61 \pm 35.14$  Eu-G to  $71.35 \pm 22.78$  Eu-G).

The 5 months infants group showed the lowest serum IgG antibody activities and serum IgG antibody to Aa SNUDC 10-1 were gradually increased from 1 year infants group to adult group.

2. Serum IgM antibody to Aa SNUDC 10-1 of umbilical cord group was revealed negative activity and the deciduous dentition, mixed dentition and puberty groups were the highest serum IgM antibody activities in the whole experimental groups( $116.95 \pm 40.23$  Eu-M,  $110.23 \pm 57.18$  Eu-M, and  $108.96 \pm 31.48$  Eu-M).
3. Serum IgG and IgM antibody activities in localized and post-localized juvenile periodontitis groups were approximately three fold higher than those of the normal control groups.
4. Serum IgA antibody activities to Aa SNUDC 10-1 could not evaluate statistically in ELISA unit.
5. Specific serum antibody synthesis to *A. actinomycetemcomitans* occurred in 1 year infants and markedly increased in the deciduous dentition group.

These results suggested the infections stage of *A. actinomycetemcomitans* prevention and early detection of localized juvenile periodontitis.

## Correlation between gingival crevicular fluid flow, its collagenolytic activity and subgingival microbial flora in adult periodontitis and rapidly progressive periodontitis

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This study was undertaken to evaluate the clinical application of GCF flow, GCF collagenolytic activity and the ratio of spirochetes/motile rods to non motile organisms to distinguish adult and rapidly progressive periodontitis and the following conclusions were elicited.

1. In adult periodontitis, as compared bleeding sites with non bleeding sites GCF flow, GCF collagenolytic activity and the ratio of spirochetes/motile rods to non motile organisms were significantly increased in bleeding sites.
2. In adult periodontitis, as compared bleeding with suppurating sites with bleeding without suppurating sites GCF flow and the ratio of spirochetes/motile rods to non motile organisms were significantly increased in bleeding with suppurating sites. But there was no significant difference in the GCF collagenolytic activity in both sites.
3. In rapidly progressive periodontitis, as compared bleedig with suppurating sites with bleeding with suppurating sites with bleeding without suppurating sites GCF flow, GCF collagenolytic activity and the ratio of spirochetes/motile rods to non motile organisms were increased significantly in bleeding with suppurating sites.
4. As compared adult periodontitis with rapidly progressive periodontitis, there were not any significant differences in GCF flow, GCF collagenolytic activity and the ratio of spirochetes/motile rods to non motile organisms.

## Serology and ultrastructure of *Actinobacillus actinomycetemcomitans* SNUDC strains isolated from localized juvenile periodontitis in Koreans

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To investigate the serology of *Actinobacillus actinomycetemcomitans*(Aa)SNUDC strains isolated from the localized juvenile periodontitis lesions in Koreans, the rabbit antisera specific to serotype a(Aa 75), serotype b(Aa Y4) and serotype c (Aa 67) were raised and purified by immunoadsorption procedure. These anti-sera were utilized in identifying the serotypes of Aa SNUDC strains through