

1. 성인성 치주염에 있어서 출혈부위와 비출혈부위간의 치은열구액의 양, 교원질용해작용 및 비운동성 세균에 대한 운동성 세균의 비에서 유의성있는 차이를 볼 수 있었다. ($P < 0.05$).
2. 성인성 치주염의 출혈부위 중에서 배농부위와 비배농 부위간의 치은열구액의 양과 비운동성 세균에 대한 운동성 세균의 비에서는 유의성 있는 차이를 볼 수 있었으나 ($P < 0.05$, $P < 0.01$) 치은열구액의 교원질용해작용에서는 볼 수 없었다 ($P > 0.05$).
3. 급성진행성 치주염에 있어서 배농부위와 비배농 부위간의 치은열구액의 양, 교원질용해작용 및 비운동성 세균에 대한 운동성 세균의 비에서 유의성 있는 차이를 볼 수 있었다 ($P < 0.05$).
4. 그러나 성인성 치주염과 급성진행성 치주염에 있어서는 출혈, 배농이 있을때는 치은열구액의 양, 교원질용해작용 및 비운동성 세균에 대한 운동성 세균의 비에서 유의성있는 차이를 볼 수 없었다.

● 한국인 국소유년성치주염환자의 *Actinobacillus Actinomycetemcomitans* SNUDC 균주의 혈청형 및 미세구조에 관한 연구

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한국인 국소유년성치주염환자의 치은연하치주낭에서 분리배양된 *Actinobacillus actinomycetemcomitans* 균주의 혈청형을 결정하기 위하여 면역흡착법에 의해 serotype a인 Aa75, serotype b인 AaY4, serotype c인 Aa67에 특이성이 있는 가토의 항혈청을 얻은 후, 이를 사용하여 면역확산법 및 간접 면역형광법을 실시하였다. 이들 균주의 미세구조를 관찰하기 위해서는 Aa SNUDC 1, 3, 4, 5, 9-2, 10-1을 선정하여 전자현미경 및 주사현미경으로 관찰하였다. 그 결과 다음과 같은 결론을 얻었다.

1. 면역흡착법에 의해 얻은 항혈청의 예비실험에서 serotype b의 항혈청은 serotype a의 Aa sonicated antigen과 부분적인 동일성을 나타냈으나, 나머지 항혈청은 다른 serotype의 Aa sonicated antigen과 동일성을 나타내지 않았다.
2. 분리배양된 12개 *Actinobacillus actinomycetemcomitans* 균주중 9개 균주는 serotype c로 판명되었으나, 나머지 균주는 어떤 serotype과도 동일성을 가지고 있지않았다.
3. 주사현미경에 의하여 관찰한 결과 균주들은 간형(rod), 구형(cocci) 및 간구형의 형태를 취하고 있었으며 그 표면에 무정형물질이 존재하고 있었으며 미세한 표면원섬유에 의하여 상호연결되어 있는 것이 관찰되었다.
4. 전자현미경에 의한 관찰에서 세포막, peptidoglycan층 및 형질막이 명확히 구분되었고 균세포를 둘러싸는 외막과 세포간격에서는 미세한 섬유가 관찰되었다.

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 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

immunodiffusion and immunofluorescence procedures. For the ultrastructural study of the *Actinobacillus actinomycetemcomitans* SNUDC 1, 3, 4, 5, 9-2 and 10-1, transmission and scanning electron microscopies were performed through routine procedures.

The results obtained were summarized as the following :

1. From the preliminary study on the specificity of anti-sera purified by immunoadsorption procedure, it was revealed that three types of anti-sera did not show non-specific cross reactions with each sonicate antigen except anti-Aa Y4 serum which had a partial identity with Aa 75 antigen. The specificity of antisera were good enough to apply for identifying the serotypes of bacilli with appropriate dilution in the immunofluorescence procedure.
2. Among the twelve selected strains of *Actinobacillus actinomycetemcomitans* in Koreans, nine strains were identified to be of serotype c, and the others did not show any identity to three types of antisera applied.
3. In the scanning electron microscopic study, morphology of three types of *Actinobacillus actinomycetemcomitans* strains were revealed to be either rod cocci or mixed types, and they possessed round or oval amorphous materials on their surfaces. Some cells were observed to be connected by surface fibrils emerging from one cell.
4. Three definite structure of the cell surface consisted of outer membrane, peptidoglycan layer and cytoplasmic membrane were confirmed by transmission electron microscopy. Some fibrillar structures, forming clusters, were observed on the surface of bacteria or in the space between them, vesicular structures were not observed frequently.

Scanning electron microscopic and profilometric study of diseased root surface after root planning

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Root planning instrumentation was accomplished on eighty periodontally involved human teeth using the hand curette and the Cavitron Ultrasonic.

The surface roughness and photomicrographs after instrumentation were evaluated by profilometer and scanning electron microscope.

The results were as follows :

1. The highest surface roughness value was $19.36 \pm 2.87 (\mu \text{ inch})$ when ultrasonic instrument applied for 10 seconds and the lowest surface roughness value was 5.98 ± 1.58 when using sharp hand curette for 10 times.
2. In the scanning electron microscope, the dull hand curettes produced a little remnants on the tooth surface, and irregular deep groove, while the sharp hand curette produced the surface with the lowest, minute groove.
3. In the case of hand curettes, excellent root surface smoothness was obtained by sharp cutting edges of hand curettes only.