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<th><strong>Title</strong></th>
<th>Variations in germ-tube formation amongst oral Candida albicans isolates from HIV-infected and uninfected individuals</th>
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<td><strong>Author(s)</strong></td>
<td>Nair, GR; Samaranayake, LP</td>
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9

Subgingival microflora and periodontal conditions in outpatients at Chulalongkorn University. H. NAPANWONGDEE, K. KUWATANASUCHATI and M. R.MANAHON (Faculty of Dentistry. Chulalongkorn University, Thailand).

The aims of the present study were to evaluate the periodontal conditions using the CPITN and the new loss of attachment index of WHO and also to investigate the presence of Porphyromonas gingivalis in subgingival plaque of the outpatients at the Faculty of Dentistry, Chulalongkorn University. Of the 250 patients examined. By using the CPITN only, it was found that more than 55% of the patients under the age of 25 had gingivitis and the minority had periodontitis. In contrast, more than 80% of the patients over the age of 40 had gingivitis and the 61% had periodontitis. It seems that the use of the two indices together show that most of the younger age group with 4.5 mm probing depth did not have attachment loss. On the other hand, the patients above the age of 40 had 61% of attachment loss. This seemed to show that the older group had greater degree of attachment loss. The results indicated that age is a significant risk factor that might imply that the use of the CPITN in the younger age group seems to overestimate the prevalence and severity of periodontal destruction and more severe in the older age group.

Thirty samples of subgingival plaque were taken from each upper first or second molar (one sample per patient). Bacterial DNA was extracted from the plaque samples with the QIAamp DNA mini kit (QIAGEN). The polymerase chain reaction (PCRs) with primer sets specific for the sequences of C. albicans were designed and used. Each PCR system consisted of a 10 µl reaction mixture. The cycling conditions were as follows: 5 min at 95°C followed by 35 cycles of 30 sec at 94°C, 45 sec at 50°C and 1 min at 72°C, followed by a final extension step of 5 min at 72°C. The PCR products were electrophoresed on a 1.5% agarose gel. The gel was stained with ethidium bromide and the DNA bands were visualized under ultraviolet light. The results showed that 10 samples out of 30 (33%) contained the C. albicans specific products. This proportion of this organism to anaerobic bacteria in the diseased group ranged 0.16-16.87% with median of 4.22%, hence supporting the role of C. albicans in advanced periodontitis in the Thai population.

10

Bacterial morphotypes of supragingival plaque in Chinese subjects. K.Y. ZEE*, L.P. SAMARANAYAKE (Department of Periodontology & Public Health and Oral Biology Unit, Faculty of Dentistry, University of Hong Kong).

The aim of this study was to estimate the percentage distribution of different bacterial morphotypes of supragingival plaque in Chinese subjects by using the experimental gingivitis model. Seven healthy dental students were recruited from Prince Philip Dental Hospital, University of Hong Kong. They were assigned to a 6-week professional prophylaxis for 3 weeks to ensure gingival health. In the fourth week, after prophylaxis, the subjects began a 21-day period without any mechanical or chemical plaque control. Plaque samples were collected from the buccal gingiva at baseline, 2, 7, and 21 days of the experimental periodonitis protocol, and at every 3 days using saliva rinse. For each sample, 1 µl of the total colony count was spread on two different plates, one for Trypticase Soy Agar and the other for the microencapsulated agar. Colony counts were obtained from the total colony count at 21 days. The proportion of this organism to the plaque was assessed with the plaque index. This was in contrast to results from studies using the same methodology in Caucasian populations in which Caries bacteria were the predominant organisms. Further studies in the Chinese population are needed to confirm or refute these findings.

11

The potential effect of catechin in tea leaf on Streptococcus mutans. R. R. GEMM* (Pedodontic & Preventive Dentistry, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia).

The objective of the study was to determine the minimal concentration (MIC) of catechin in tea that could inhibit the growth of Streptococcus mutans, a bacteria that predominate in caries formation. Based on the MIC it could be used a diet dilution concentration of catechin in tea. The sample was scraping of caries lesion taken from children who visited the Pediatric Dental Clinic. The susceptibility of the bacteria was determined in the extraction of catechin from green tea was done in The Tea Research Center Laboratory in Miyazaki, Japan. A serial dilution method of NCMC (1985) was used to determine the minimal inhibitory concentration of catechin against S. mutans. The micorscopic examination and the identification of the cultures indicated that streptococcus mutans was detected predominate in caries. The minimal inhibitory concentration (MIC) of catechin was 0.5 µg/ml. The statistical analysis using two Ways Analysis of Variance followed by Multiple Comparison showed that the number of bacteria from the samples collected in the tea was significantly decreased in 0.5 µg concentration of catechin with the optimal contact time of 3 to 5 min. This is meant to be used as a mouthwash a dilution concentration (MIC) of catechin 0.5 µg/ml for 3 to 5 min. (A. M. Kim, I. Yoon, J. Lee).

12

A Relation of Plasma Albumin Level to Calculus Deposit. Y. KOMAI, F. KANAZAWA, K. KAWAMURA (Universities Indonesia, Institut Pertanian Bogor, Palasitngan Gizi, Indonesia).

Previous studies have shown that a group of proline rich proteins in human saliva can act as inhibitors of calculus formation. However, little is known about the role of albumin as an inhibitor. Among the many native Indonesian still consume diet with a low protein level nowadays, and the fact that many Indonesians have less dental plaque. Further studies showed that the preliminary study was to investigate the correlation between plasma albumin level to calculus deposit on the tooth surface. 14 people aged 22-50 in the Bogor, Indonesia. Plasma albumin level was measured using spectrophotometry. The plasma albumin level is one of the possible reasons which prevents the deposit of calculus on the tooth surface.

13

Sak Sila: Silk from human mandibles used as a three dimensional testing specimen. Bilateral sagittal osseous sections were performed and 5-mm. advancements were made. The specimens were divided into plane-parallel group and non-plane-parallel group. Each specimen were subjected to repeated compressive loads of 20.22 MPa for 17°C for 90°C with an equilization volume of bone specimen. Of the 47 oral C. albicans isolates (20 from HIV-infected and 18 from uninfected individuals) was investigated using a previously described method using bovine serum and TC 199 medium as GT inoculators. Briefly, 0.5 ml of each C. albicans was cultured at 37°C for 90 min with an equilization volume of bone serum. One hundred C. albicans colonies were counted for GT formation using a haemocytometer, under 400x magnification. In addition, a select group of 6 isolates from both HIV-infected and uninfected individuals were plated on blood-agar-lactobacillus (20 µg) and lysozyme (20 and 50 µg) followed by serum to evaluate their effect on GT induction. Amongst the media tested, serum produced more GT compared with TC 199 medium (mean 25.2 ± 35.7% and 23.0 ± 36.2% respectively) for GT-induction, irrespective of serum concentration. When the GT-ability of C. albicans isolates from HIV-infected and uninfected individuals was compared, a marginally high rate was observed amongst the former group (p > 0.05). Whereas the lactobacillus (20 µg) and lysozyme (20 µg) had no effect, lysozyme as a concentration of 30 µg inhibited the GT formation of C. albicans GT formation. The foregoing indicates that a serum is a better GT inducer compared with TC 199 medium, and isolates from HIV-infected individuals and those uninfected have no significant differences in GT forming abilities. Published by Research Grants Council of Hong Kong.

14

Biochemical Differences Between Endocochlea Bone and Intramembranous Bone Matrix. A. TWITTY*, A.M. RABIE and D. SHUM (Department of Children's Dentistry and Orthodontics, Department of Biochemistry, The University of Hong Kong).

In a qualitative study, we reported that composite intramembranous bone induced more new bone than composite endochondral bone. In order to elucidate the factors behind the enhanced osseogenic activity of intramembranous bone, biochemical analysis of the extracellular matrices of both types of bone was carried out in this study. The results showed that the extracellular matrix of endochondral bone (form) and intramembranous bone (membranous and parietal bone) were harvested from 3-4 month old New Zealand white rabbits. The bone was cleaned, demineralized, dried and powdered (particle size: 0.25-25 mm) before being dissolved in 0.5 M HCl. Protein was extracted dialyzed using 484 GAcHCl and ultrafiltration was used to give a 10-100Da molecular weight range. Sepharose Chromatography further separated the protein before they were run on 15% SDS polyacrylamide gel electrophoresis. To determine whether there was a difference in bonding pattern between the two bone types with results showing the presence of a 28-72 kDa protein in the bovine bonding factor (BBF) and the absence of an 87 kDa allophane inhibitory factor. Enzyme linked immunosorbent analysis (ELISA) assays have shown that the presence of this protein in the matrix is one of the possible mechanisms which prevent the deposit of calculus on the tooth surface.