0107

Evaluation of the Benefits of Listerine Mouthwash in improving the Oral Health Status of Dentists' Patients in a Practice-based Setting. N. RADLEY[1], S. MASON*[2], J. COELHO[1], B. FATH[2], and A. GREENWOOD[2], [1] Pfizer Inc, Morris Plains, NJ, USA, [2] HillTop Research Inc, West Palm Beach, FL, USA

Objectives: To enable large numbers of dental professionals in the UK, Germany and Belgium to evaluate the benefits of Listerine® Mouthrinse in improving the oral health status of their patients in a practice based setting and to compare the results to those reported in controlled clinical studies. Methods: 420 General Dental Practitioners in the UK, Germany and Belgium were invited to participate in an open uncontrolled non blinded field study. Each dentist received materials and instructions as to how to assess gingival health and plaque using a simplified 4 point scoring methodology and evaluations by sextant and globally. Subjects which met defined inclusion/exclusion criteria were then identified from the dental office normal patient pool as part of the routine appointment attendance. These subjects were invited to participate in this three month study, using Listerine Mouthrinse 2 x per day for three months as an adjunct to their normal oral hygiene procedures. If the subjects were willing to participate in the study, they were entered into the study and provided with sufficient product to use until their three month evaluation. At the three month evaluation they were reevaluated by the dental practitioner using the same simplified plaque and gingival health scoring scales together with a habits and practices questionnaire. Results: Significant improvements were measured after three months product use in all countries, with both gingival health and plaque control improving by approximately 50%. Frequency distributions showed a transition to improved oral health and the programme met the expectations of both the dental practitioner and the research subject. Most practitioners confirmed that the use of Listerine as an adjunct to normal oral hygiene was beneficial in their practice/subject environment. Conclusions: The results of this study indicated significant improvement in gingival health and plaque following the three month use period.

0108

The Occurrence of Bad Oral Habits, Malocclusion, and the Condition of First Permanent Molars and Primary Molars in Polish Children in Wroclaw. B. KAWALA*[1], A. NECKA[1], and T. MATTHEWS-BRZOZOWSKA[2], [1] Wroclaw Medical University, Poland, [2] Karol Marcinkowski University of Medical Sciences Poznan, Wroclaw Medical University, Poland

Objectives: according to dental publications, oral health condition is not satisfactory in children in different part of Poland, therefore frequency of oral bad habits, malocclusions and caries in primary molars in preschool children and in first permanent molars in schoolchildren seemed to be of great interest. Methods: the group of 614 pre-school children (3 to 7 year olds) and 325 schoolchildren up to 12 year olds were examined by the authors. The schoolchildren were divided into 6 group: 72 seven year-old children, 67 eight year olds, 34 nine year olds, 59 ten year olds, 49 eleven year olds and 44 twelve year olds. In every case malocclusion, dysfunction and caries were clinically assesed. Results: bad oral habits occurred in 84 % schoolchildren and in 50,8% pre-school children. *Thumb sucking, nail grinding, infantile type of swallowing and mouth breathing were the most common malfunctions in preschool children.* Nail and different objects grinding, lip biting and infantile type of swallowing were the most common malfunctions, occurring in schoolchildren. The frequency of malocclusion was 40,3% in schoolchildren. The distribution of different types of malocclusion was as follows: distoocclusion-52.8%, crossbite and mesiocclusion - 13% each one, open bite - 12.2%, deep bite - 8.9% in schoolchildren. In preschool children there was caries at least in one primary molar in 65% children, exfoliated primary molars in 2.1% children and fillings in primary molars in 16.6%.There was no clinical evidence of caries in 46.5% schoolchildren. Caries and fillings appeared respectively in: 0.42 and 0.93 of first permanent molar. Conclusion: The obtained results suggest that there is need of prophylaxis introduction in order to prevent premature lost of either first permanent molars or primary ones. Malfunctions that occur very frequently in preschool and schoolchildren also prove necessity of orthodontic prophylactic programme elaboration.

0109

Use of Fissure Sealants in Finland — A Questionnaire Survey. S. KERVANTO-SEPPÄLÄ*[1], E. LAVONIUS[1], I. PIETILÄ[2], J. MEURMAN[1], and E. KEROSUO[3], [1]University of Helsinki, 00014 Hgin yliopisto, Finland, [2]Pori Municipal Health Center, Finland, [3]University of Turku, Finland

Fissure sealants have been used widely as a caries preventive method, particularly in the Nordic countries, but specific nationwide data concerning their use has not been published.

Objectives: The aim of this study was to find out whether a nationwide preventive caries strategy for the occlusal caries could be identified in Finland, and to trace the changes, if any, in the sealant application policy within the past 10 years. Methods: A questionnaire was sent to the principal dentist at every municipal dental health center, adding up to a total of 434 questionnaires. A group of randomly chosen general practitioners was also included. The questionnaire had 22 specific questions. Results: In 2001, a vast majority of the of municipal dental health centers (65%), regarded fissure sealants as one of the main preventive measures against occlusal caries, and applied them systematically, but using individual criteria. None of the respondents reported to place sealants without individual risk assessment, although these criteria varied. The respondents estimated the use of sealants to have increased in 4%, decreased in 68% and remained the same in 28% of the dental health centers during the last ten years. It was estimated, that among the children under the age of 19, sealant application comprised 16% of the visits to the municipal dental health centers in 1991, but only 9% in 2001, respectively. Conclusion: During the last decade the tendency for sealant application has decreased. The earlier policy of annual check-up intervals has changed towards personal caries risk evaluation and prevention. Sealing is mainly restricted to the children / teeth with high caries risk, but no specific nationwide fissure sealant policy seems to exist.

0110

The Effects of Fibroblasts and Keratinocyte Growth Factor on Morphogenesis of Reconstituted Human Oral Epithelium. D.E. COSTEA*[1], E.A.O. DIMBA[1], L.L. LORO[1], G. ØIJORDSBAKKEN[1], O.K. VINTERMYR[2], and A.C. JOHANNESSEN[1], [1] University of Bergen, Norway, [2] Haukeland University Hospital, Bergen, Norway

Background: Recent studies suggest that fibroblasts, and particularly keratinocyte growth factor (KGF) synthesised by fibroblasts, play a crucial role on epithelial growth and differentiation. **Objective:** To examine the effects of fibroblasts and KGF on human oral epithelial morphogenesis. **Methods:** Two types of primary human oral mucosal equivalents were prepared: organotypic mono-cultures, with keratinocytes grown on collagen matrix in the absence of fibroblasts, and organotypic co-cultures, with keratinocytes grown on fibroblast-containing collagen biomatrix. Exogenous KGF was added in culture media at day 1 of culture. The cultures were grown in serum-free medium for 10 days. Tissue architecture (histomorphometry), cell proliferation (Ki67), cell differentiation (CK13, CK14, CK19), and cell death (TUNEL) were assessed. **Results:** In fibroblast deprived cultures (OTK), epithelium (28.03 ± 5.03) was thinner (p=0.037) than the one grown in presence of fibroblasts (OTKF)(66.06 ± 8.68). Basal cell proliferation was significantly lower in OTK than in OTKF (p=0,025). Addition of KGF induced a dose-dependent increase of total epithelial thickness and basal cell proliferation in both types of culture. The distribution of the various cell layers in the total epithelial thickness and cytokeratin expression showed major differences dependent on the presence/absence of fibroblasts. Additional KGF did not modify the pattern of epithelial stratification or the cytokeratin distribution. Cell death was higher in basal layer of epithelium in OTK compared with OTKF (p=0.012). KGF induced a decrease in cell death of the basal cell layer and an increase of cell death in the superficial cell layer, although not statistically significant (p=0,378).**Conclusion:** Fibroblasts have a crucial effect on proliferation and differentiation of human oral epithelium, especially for the development of stratum spinosum. KGF influences epithelial proliferation, but has little or no effect on epithelial differentiation, suggesting that other factors synthesised by fibroblasts are responsible for the differentiation of human oral epithelium.

0111

An Epidemiological Assessment of the Prevalence and Referral Mechanism of Orofacial Diseases to the Only Tertiary Dental Care Institution in Hong Kong – A Pilot Study. R. NAIR, F. CHU, and P. NEWSOME*, University of Hong Kong, Hong Kong

Objectives: The purpose of the present pilot study was to evaluate the prevalence of patients with orofacial diseases and also the referral mechanism of orofacial and mucosal diseases by the general dental and medical practitioners to the Prince Philip Dental Hospital of the Faculty of Dentistry, the University of Hong Kong. Methods: A complete extra and intra-oral mucosal examination according to WHO guidelines was performed by trained dentists at the Primary Care Clinic of the Prince Philip Dental Hospital, the only tertiary care dental centre in Hong Kong. Results: A total of 682 subjects attended the clinic during the study period of one month and the results showed a total of 110 (16.12%) Chinese patients with a median age of 49 years (range = 17-89 years, males = 49, females = 61) with one or more orofacial lesions or conditions. Red lesions (2.78%) was observed the most followed by minor recurrent aphthous stomatitis (MiRAS, 2.05%), temporomandibular joint complaint (1.75%), abscess (1.46%), traumatic ulcer (1.17%), white lesions (1.02%), other pigmented lesions (0.87%), lip lesions (0.73%), lymph node enlargement (0.73%), tori (0.29%), xerostomia (0.14%), facial pain (0.14%) and one patient with a malignant ulcer (0.14%). Of these 110 patients, 33 (30%) were not aware of their oral lesions such as a white, red or other pigmented lesions and xerostomia, which was an incidental finding rather than the main reason for the visit or the referral. Conclusions: These results suggest that further awareness campaigns and continuing education (aimed at increasing awareness about potentially malignant lesions and the importance of early detection and referral) amongst the public and general practitioners, respectively are urgently warranted.

0112

Expression Pattern of Novel Human Beta-defensin mRNA in Human Organs. Y. ABIKO*, M. YAMAZAKI, M. NISHIMURA, K. KUSANO, and T. KAKU, Health Sciences University of Hokkaido, Sapporo, Japan

Objectives: Human beta-defensins (hBDs) belong to a group of antimicrobial peptide, expressed mainly in epithelial cells. Recently, 31 types of human hBDs have been discovered using a computational search strategy (Schutte at al:PNAS, 2002). The purpose of the present study was to evaluate the expression pattern of newly discovered hBDs in human organs. Methods: cDNA Panels (BD Biosciences, Clontech, CA, USA) were used for this study. Keratinocyte derived from normal foreskin (NHK) and oral epithelium (NOE), oral epithelial cell lines (SCC-9, KB) and fibroblasts derived from human gingiva were also used. Total RNA was extracted from cell culture and then was reverse-transcribed. In order to observe the mRNA level of hBDs, a quantitative RT-PCR assay was perform with LightCyclerTM using the double-stranded DNA dye SYBR Green I (Roche Molecular Biochemicals, Germany). The primers for hBDs (hBD-18~29) were designed based on NCBI date for the RT-PCR. To examine whether the expression is constitutive or inducible by inflammatory stimulation, LPS (10~1000ng/ml), TNF-a (40ng/ml), IFN-g (10ng/ml), IL-1 b (10ng/ml) and PMA(1~100nM) was added to the cell culture system. Individual experiments were performed in triplicates. Results: Expressions of hBD-18 and-29 were detected in all organs including non-epithelial tissues and cells such as skeletal muscle, leukocyte, and fibroblasts. NHK, NOE and oral epithelial cell lines expressed hBD-18, -25 and -29. hBD-18 and-29 were constitutively expressed by the stimulants. The expression of hBD-25 was down-regulated by the stimulation with LPS. Conclusion: The results indicate that several types of hBDs are expressed widely in human organs including epithelial and non-epithelial tissues. hBD-25 may be one of most specific one for skin and oral epithelia.

0113

Areca Quid and Cancer of Oral Cavity and Pharynx and Gastrointestinal Tract. H.C. HUNG*[1], H.-I. YANG[2], W.-L. HSU[2], S.-T. HUANG[1], T.-Y. SHIEH[1], and C.-J. CHEN[2], [1] Kaohsiung Medical University, Taiwan, [2] National Taiwan University, Taiepi, Taiwan

Objectives: Many studies have reported the significant association between areca nut chewing and oral cancer. However, most of these studies are case-control designed and might be subject to recall bias and selection bias. In this study, we evaluated the association between areca nut and oral and pharyngeal cancer, and cancers of gastrointestinal tract prospective cohort. Methods: Among 24,300 male Taiwanese free of cancers at baseline, there were 94 oral and pharyngeal cancer events, 43 esophageal cancer events, 163 gastric cancer events and 224 colorectal cancer events. Results: Compared to men without areca nut chewing, men with habitual chewing had a RR of 3.2 with 95% CI of 2.1-5.0 after adjusting for other confounders. Men chewing1-10, 11-20 and 20+ portions per day had 1.8, 4.3 and 4.5-fold risk of developing oral and pharyngeal cancer relative to men without chewing. The significant association of areca nut chewing was also found with esophageal cancer (RR, 2.4; 95% CI: 1.2-4.8) but not with gastric cancer and colorectal cancer. There were even inverse associations between areca nut chewing, and gastric cancer (RR: 0.4; 95% C.I.: 0.1-0.9) and colorectal cancer (RR: 0.4; 95% C.I. 0.2-0.8). Conclusion: We found that areca nut was associated with an increased risk of cancers of oral cavity and pharynx, and esophagus, but with a decreased risk of gastric cancer and colorectal cancer. (grant supported by National Science Council, Taiwan)

0114

Asymptomatic Gut Inflammation in Oro-facial Granulomatosis. M. ESCUDIER*, K. BARNARD, P. SHIRLAW, E. ODELL, J. SANDERSON, and S. CHALLACOMBE, King's College London, United Kingdom

Objectives: To characterise the oral and intestinal (via ileocolonospopy) features of patients with oro-facial granulomatosis.

Methods: 35 patients with OFG, and no gastrointestinal symptoms were identified and a detailed assessment of the oral cavity performed. Haematological investigation (full blood count, ESR, CRP, vitamin B12, folate, ferritin, SACE and ANA) was undertaken together with a chest radiograph and standard cutaneous patch testing. A biopsy of affected oral mucosa was obtained and an ileocolonoscopy performed under intravenous sedation. A group of patients undergoing ileocolonoscopy for a family history of colorectal cancer acted as the control.

Results: Of the 35 patients (18 female, 17 male) median age was 24 years (range 6-74 years). Median age of onset was 20 years and mean duration 3 years. Lip swelling was commonest presentation but buccal and gingival inflammation were also common. Swelling (91%) and erythema (70%) were commonest macroscopic findings while cobblestoning (49%), fissuring (37%), and ulceration (aphthous-like 15%, linear 12%) were also seen. Haematological and patch test results were not associated with presence of gastrointestinal inflammation. Radiographic examination was normal in all cases. Oral mucosal biopsy demonstrated granulomas in 86% while ileocolonoscopy revealed intestinal abnormalities in 59%, with granulomas demonstrated in 75% of cases. Statistical analysis (Chi squared) revealed a statistically significant relationship between age of onset <30 and GIT involvement, severity of oral involvement and severity of GIT involvement, both p<0.05.

Conclusions: OFG most likely defines a group of conditions in which granulomatous inflammation occurs in the oral cavity, especially the lip. In some cases the inflammation appears limited to the oral cavity. However, in a large proportion, particularly younger patients, the oral inflammation may form part of a generalised, discrete granulomatous enteritis.