2619 Anesthetic sensitivity of putative pathways in Chinese periodontal pouches. K. Y. ZEE, D. H. LEE and I. P. SAMARANAYAKE (Faculty of Dentistry, The University of Hong Kong)

The aim of the present study was to investigate the anesthetic sensitivity of the putative periodontal pouches in Chinese patients suffering from advanced periodontal disease. Subjects with at least 1 tooth with severe periodontal involvement scheduled for extraction and who taking any antiinflammatory for at least 3 months were included. Positive test was obtained from 10 patients. Test was given at the bottom of the pocket before extraction. Each site was sampled in reduced transfer fluid and cultured with 0.10% phenol and 0.5% neomycin. Antibiotic susceptibility test was performed to identify the best possible antibiotics for the area.

2620 Dentin Permeability in Vivo After Application of Tartrate Acid Solutions. R. N. ROSEN, M. TEOI, F. A. LUCCHESI, C. SHERIDAN, C. PRATT (Univ. of Bologna and Ferrara, Italy)

Introduction: Preliminary investigations demonstrated that tetrasodium pyrophosphate (TAP) solution in vitro and in vivo, was able to improve dentin permeability and reduce dentin hypersensitivity. The purpose of this study was to evaluate the effect of a new solution composed of tetrasodium pyrophosphate (TAP) solution on the permeability of dentin.

Methods: One hundred and one sound human tooth specimens were divided into 3 groups: Group A, TAP solution; Group B, 4% NaOCl; Group C, distilled water. After treatment, the specimens were kept in an aqueous environment. The degree of dentin permeability was determined by measuring the flow rate of the solution through the dentin. The results were statistically analyzed using a one-way ANOVA.

Results: The results showed that the TAP solution significantly reduced the permeability of dentin compared to the 4% NaOCl and the distilled water groups. The degree of dentin permeability was significantly lower in the TAP solution group compared to the other two groups.

Conclusions: The results of this study suggest that TAP solution may be an effective agent for reducing dentin permeability and improving dentin permeability.

2621 In vitro macroal model predictive of bioadhesiveness in the mouth. P. TATEL, S. STEVENS, A. SMITH, C. ORRIS, R. SMART, J. SMART (School of Pharmacy and Biomedical Sciences, University of Portsmouth, UK)

The formation of a drug carrier system that can be stored and released for periods of time is required in order to fully understand the treatment options for patients suffering from chronic diseases. The main focus of this study was to develop an in vitro system to allow the prediction of in vivo performance of bioadhesive agents, such as solutions of polymer drug carriers in the oral cavity. Polymer adhesives onto buccal mucosal cells surfaces was investigated. In a test tube, a test tube was employed to determine the effect of each of the parameters on the bioadhesiveness of the polymer system. These parameters were concentration of polymer, pH, and the presence of saliva.

2622 Cutaneous Hypersensitivity Following a Mild Cold Injury on Human Skin. C. R. BERGER, K. K. KOEDAM, D. C. URINE, M. S. PETERSON (University of Minnesota, School of Dentistry and Medicine, Minneapolis, MN, USA)

Hypersensitivity to cold is often present following serve and tissue injuries, wherein gentle cooling of the skin produces a painful sensation. The underlying peripheral neural mechanisms that mediate cold hypersensitivity are poorly understood. It is possible that all cold-sensing mechanisms become sensitized to cold stimuli (reduced threshold and increased response to suprathreshold stimuli). In this study, we evaluated the effects of cold on cutaneous hypersensitivity by applying a cold conditioning stimulus to the skin. The cold stimulus was applied to the skin and the temperature was monitored. The results showed that the cold stimulus was able to induce a significant change in the sensory threshold.

Materials and Methods: A total of 10 healthy volunteers were recruited for the study. The skin on the arm was conditioned with a cold stimulus (10°C for 3 min) and the temperature was then monitored. The results were statistically analyzed using a one-way ANOVA.

Results: The results showed that the cold stimulus significantly reduced the sensory threshold (p < 0.05). This indicates that cold affects the sensory threshold.

Conclusions: The results of this study suggest that cold affects the sensory threshold and may be a useful tool for studying the mechanism of cold hypersensitivity.

2623 Evidence for Gaiassin in Nerve Fibers and Nerve Endings in the Gland of Rats, T. KIRKMAZ, J. A. BANGMANN, F. E. EFINGER, H. SCHROEDER (Dental School and Institute for Anatomy, Univ. of Cologne, Germany)

The presence of Gaiassin in the epithelium and lamina propria of the gingival and oral mucosa of healthy volunteers was determined using the immunohistochemical technique. Immunohistochemical staining revealed the presence of Gaiassin in the epithelium and lamina propria of the gingival and oral mucosa. These findings suggest that Gaiassin may be a marker for the differentiation of the epithelium and lamina propria.

Materials and Methods: A total of 10 healthy volunteers were recruited for the study. The skin on the arm was conditioned with a cold stimulus (10°C for 3 min) and the temperature was then monitored. The results were statistically analyzed using a one-way ANOVA.

Results: The results showed that the cold stimulus significantly reduced the sensory threshold (p < 0.05). This indicates that cold affects the sensory threshold.

Conclusions: The results of this study suggest that cold affects the sensory threshold and may be a useful tool for studying the mechanism of cold hypersensitivity.