INNES P. B.

The *in vitro* differentiation of cat sulcular epithelium, *J. Periodont. Res.* **14** (1979) 115–122.

The *in vitro* differentiation of the sulcular epithelium from cats was studied. Gingival tissues were removed from the labial aspect of the canine teeth of 6 adult cats. These specimens were cultured on stainless steel rafts in organ culture dishes for 3 days. At the end of this period the specimens were examined in the light and electron microscopes. It was found that the sulcular epithelium, which at the time of explantation was a non-keratinized epithelium, developed into a keratinized stratified squamous epithelium after 3 days *in vitro*.

The results demonstrated that sulcular epithelium possesses the potential to keratinize and it is suggested that environmental factors are important in the *in vivo* differentiation of this tissue.

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KEGEL W., SELIPSKY H. and PHILLIPS C.

The effect of splinting on tooth mobility. I. During initial therapy, *J. Clin. Periodontol.* **6** (1979) 45–58.

The purpose of this study was to assess whether fixed splinting aided in the reduction of posterior tooth mobility during initial therapy. A 'split-mouth' approach was used in order to compare splinted segments with similar unsplinted segments. Seven patients were selected, all of whom demonstrated chronic destructive periodontitis and mobile teeth. Initial therapy, consisting of oral hygiene instruction, root curettage and occlusal adjustment, was performed over a 2-week period. At the time of initial therapy, teeth in contralateral segments were splinted with an intracoronal wire-and-acrylic splint. Tooth mobility and gingival inflammation were recorded in all four segments every 3 weeks for a 15-week monitoring period following initial therapy. The splints were removed before each data recording session and then replaced and the occlusion refined. Prophylaxis and oral hygiene instruction were repeated every second week throughout the monitoring period. The reduction in the mobility of teeth splinted during the entire therapy period did not differ from the reduction observed in the unsplinted segments. The reduction in tooth mobility observed in both the splinted and unsplinted segments over the 17-week period can be attributed to the improved occlusal relationships and reduction in inflammation.

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PHARMACOLOGY AND THERAPEUTICS

WILLIAMS R. C., SANDLER M. B., ASCHAFFENBURG P. H. and GOLDHABER P.

Preliminary observations on the inhibitory effect of tetracycline on alveolar bone loss in beagle dogs, *J. Periodont. Res.* **14** (1979) 341–351.

Alvolar bone loss of selected periodontally diseased teeth in four beagles receiving daily tetracycline *per os* was compared to three untreated beagle dogs. The percentage and rate of bone loss was measured radiographically over a 47-month-period. This included a preliminary period of 20 months when no animals received antibiotics, and 27 months in which 4 animals were each given 250 mg tetracycline hydrochloride daily. During the preliminary period, all dogs progressively lost alveolar bone. However, with the institution of tetracycline treatment further loss of alveolar bone in the treated animals was arrested or markedly diminished for various intervals of time before resuming the original more accelerated rate of bone loss. Bone loss in one animal was arrested for 27 months, whereas in another animal, the period of arrested bone loss was only 5 months. In two animals, bone loss was arrested for 17 months.

Bacterial samples from one periodontal pocket in each dog revealed that a Gram-negative flora predominated in all animals. Tetracycline administration altered the pocket flora slightly with a shift to more Gram-positive organisms in the treated animals.

The data suggest that daily tetracycline administered orally may be effective in slowing the progressive loss of alveolar bone in beagle dogs.

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