Periodontal response to two intracanal medicaments in replanted monkey incisors

Type: Article

Abstract: Intracanal medicaments are recommended for use in replanted teeth to inhibit inflammatory root resorption. This study compared the effect of calcium hydroxide (Pulpdent (R)) and a corticosteroid-antibiotic paste (Ledermix (R)) on periodontal healing and root resorption following replantation. Incisors of eight Macaca fascicularis monkeys were extracted, stored dry for 15 min and replanted. After 11 days, root canals in two adjacent maxillary incisors were treated with one medicament and contralateral incisors with the other medicament, or left as untreated controls. Animals were sacrificed 8 weeks later and the teeth prepared for histomorphometric evaluation of periodontal ligament inflammation and root resorption. Periodontal ligament inflammation and inflammatory root resorption were markedly inhibited by both calcium hydroxide and corticosteroid-antibiotic relative to untreated controls. Replacement resorption was lowest in the corticosteroid-antibiotic group, and significantly (P <0.05) more normal periodontal ligament was present in this group (79.6%) than in calcium hydroxide and control groups (64.6% and 62.7%, respectively). Treatment with the corticosteroid-antibiotic inhibited inflammatory resorption and was slightly more effective than calcium hydroxide in producing a periodontal healing response.

Keyword: calcium hydroxide, corticosteroid, root resorption, tooth avulsion, tooth replantation, inflammatory root resorption, calcium hydroxide treatment, mature, permanent incisors, dog teeth, ligament, therapy, paste