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A new method for rapid Canine retraction

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Abstract:

Distraction osteogenesis method (Do) in bone lengthening and rapid midpalatal expansion have shown the great ability of osteognic tissues for rapid bone formation under distraction force and special protocol with optimum rate of one millimeter per day. Periodontal membrane of teeth (PDM) is the extension of periostium in the alveolar socked. Orthodontic force distracts PDM fibers in the tension side and then bone formation will begin.Objects: Rapid retraction of canine tooth into extraction space of first premolar by DO protocol in order to show the ability of the PDM in rapid bone formation. The other objective was reducing total orthodontic treatment time of extraction cases.Patients and Methods: Tweleve maxillary canines in six patients were retracted rapidly in three weeks by a custom-made tooth-born appliance. Radiographic records were taken to evaluate the effects of heavy applied force on canine and anchorage teeth.Results: Average retraction was 7.05 mm in three weeks (2.35 mm/week). Canines rotated distal- in by mean 3.5 degrees.Anchorage loss was from 0 to 0.8 mm with average of 0.3 mm.Root resorption of canines was negligible, and was not significant clinically. Periodontium was normal after rapid retraction. No hazard for pulp vitality was observed.Discussion: PDM responded well to heavy distraction force by Do protocol. Rapid canine retraction seems to be a safe method and can considerabely reduce orthodontic time.

Keywords:

Canine retraction

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