

CHAPTER 6

CONCLUSIONS

This study was made to evaluate the effects of two different force magnitudes (70 and 120 grams) on CS (WF6 epitope) levels in human GCF in conjunction with rate of tooth movement and patient discomfort. Thirty-two maxillary canines (from 16 adult patients), undergoing distal movement, were used as the experimental teeth. Thirty-two mandibular canines not needing orthodontic tooth movement were used as the control teeth. Competitive ELISA with monoclonal antibody WF6 was used to detect the CS (WF6 epitope) levels in the GCF samples.

The results of this present study can be summarized as follows:

- 1) Orthodontic force affected CS (WF6 epitope) levels around loaded canines, but CS (WF6 epitope) levels induced by two force magnitudes (70 and 120 grams) were not significantly different.
- 2) There was no significant difference in the rate of canine movement under 70 and 120 grams of orthodontic force.
- 3) During orthodontic canine retraction, 70 grams force was enough and more suitable than 120 grams force using 0.018 x 0.025 inch bracket slots and 0.016 x 0.016 inch stainless steel wire.
- 4) There was no difference in bone resorption (degradation product), or rate of tooth movement between the use of 70 and 120 grams of force.
- 5) With 70 grams of force, there was reduced pain, better comfort and less tooth tipping.



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