CHAPTER VI
CONCLUSION

This study was directed to monitor changes of CS epitope (WF6 epitope) levels in PMICF under orthodontic forces. Two parts of experiments were carried out. The first part of the experiment (Part I) was five weeks. The second part of the experiment (Part II) was ten weeks. Twenty miniscrew implants were used as orthodontic anchorages, placed buccally and bilaterally, in the alveolar bone between the roots of maxillary posterior teeth. Sentalloy closed-coil springs (50g) were used to load the miniscrew implant and to move the maxillary canines distally. During the unloaded period and the loaded period, PMICF samples were collected. Clinical mobility assessments of the miniscrew implants were recorded at every visit. The competitive ELISA with monoclonal antibody WF6 was used to detect CS epitope (WF6 epitope) in the PMICF samples.

The results were summarized as follows:

1. The CS epitope (WF6 epitope) could be precisely detected in PMICF samples collected from peri-miniscrew implant sulcus during the unloaded and the loaded period.
2. In the first part, during the unloaded period (one week), all miniscrew implants remained clinically immobile. During the loaded period (four weeks), two miniscrew implants were considered to be failed. The median of CS epitope (WF6 epitope) levels during the loaded period was significantly greater than that during the unloaded period ($P < .05$).
3. In the second part, during the unloaded period (one week), all miniscrew implants remained clinically immobile. During the loaded period (nine weeks), one miniscrew implant was considered to have failed. No significant difference was found between the median CS epitope (WF6 epitope) level during the unloaded period and that during the loaded period.
4. The CS epitope (WF6 epitope) levels of three failed miniscrew implants were remarkably elevated 14 days prior to miniscrew implant failure.

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