

CHAPTER 6: CONCLUSION

1. In this study, the soft splint significantly reduced the maximum clenching EMG activity of anterior temporal and masseter muscles in TMD patient with myofascial pain and/or arthralgia with disc displacement. Meanwhile, the soft splint produced no significant difference in the postural and maximum clenching EMG activity of anterior temporal and masseter muscles in healthy subjects. This showed that the soft splint could reduce the muscles activities of the TMD patients but not that of the healthy individuals. It was suggested that the soft splint might also reduce the parafunctional muscle activity such as that of parafunctional clenching.
2. After six weeks of conservative treatment, there was no significant difference in the maximum clenching EMG activity of the masseter muscle upon insertion of the soft splint, but there was still a significant decrease in the maximum clenching EMG activity of the anterior temporal muscle. It was suggested that recovered muscle might be less sensitive to the vertical dimension changes caused by the splint, similar to that of healthy subject due to the muscle was stronger. This suggested that the masseter muscle might have recovered effectively but not the anterior temporal muscle. This might be because of the period of 6 weeks was too short and therefore longer period of conservative treatment might be needed for the effective recovery of the anterior temporal muscles.
3. The conservative treatments that comprised patient education and self-care, analgesics and soft splint, seemed to be an effective way in resolving the pain of the TMD patients to resume their routine oral function. Its effectiveness was 72.2 % in

this study. However this result needs further evaluation by future study with controls.

4. It was found in this study that all of the TMD patients presented with at least one kind of functional overloading. All subjects had at least one form of parafunctional habits while 12 (66.7%) subjects had at least one form of adverse usage of the masticatory system. It seems that functional overloading might be an important etiologic factor in TMD. Since soft splint could reduce the muscle activity, it was suggested that TMD patients presented with functional overloading such as parafunctional clenching might be beneficial of soft splint treatment. However this result needs further evaluation by future study with controls.

6.1. Clinical Implication

1. In treatment of TMD, patient with known functional overloading such as parafunctional clenching may benefit of the soft splint therapy since the soft splint could reduce the maximum clenching muscle activity among the TMD patients as shown in this study which might also reduce the parafunctional muscle activity. For individual with parafunctional habit of clenching, the maximum clenching activity might probably represent the greatest activity of his clenching habits.
2. The response of the muscle of TMD patients towards the splint might change over the time. As the patients were recovering from TMD, the muscle became stronger and the splint would cause no significant difference in the maximum clenching muscle activity, similar to that of healthy subject.

3. Conservative treatments comprised patient education and self-care, analgesics and soft splint could become one of the first attempted treatment modality for TMD. This conservative treatment package might suggest one of the ways for the application of soft splint since soft splint is generally not recommended to be prescribed as sole treatment.

4. In the treatment of TMD disorders, the reduction of functional overloading might be important and it required investigation of the biomechanics of the masticatory system. Soft splint may be useful in treatment of TMD patients with functional overloading such as parafunctional clenching. By reducing the muscle activity, soft splint might in turn reduce the damaging effect of parafunctional clenching.