

TMD therapy using two different occlusal splint designs

•40 patients have been observed over 3 months.

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Results

One drop-out and one patient excluded due to subsequent diagnosis of

•All recorded TMD signs and symptoms improved over 3 months

•No differences were noted between the splints. P > .05

Background

A number of studies support the efficiency of the stabilization splint (Michigan type) (Clark 1984) in the treatment of patients with TMD related symptoms. The NTI-tss splint (nociceptive trigeminal inhibition tension suppression system) was developed in 1998.

There has not been published any referee-controlled paper concerning the NTI splint.

Despite the lack of evidence, the NTI splint has been widely used by dentists in the treatment of TMD patients since its introduction.

Study Aim

Compare occlusal splint therapy in TMD patients using two different splint designs.

Materials & Methods

A double blind randomized parallel trial.

40 consenting patients selected from the dental faculty pool of TMD patients. Two splint designs :

- A: NTI (Nociceptiv trigeminal inhibition).
- B: Ordinary stabilization (Michigan type).

All patients treated by one operator

Assessment after 2 and 6 weeks and 3 months splint use.

A separate examiner assessed joint and muscle tenderness by palpation and bite opening. The patient allocation was unknown to the examiner.

Patients reported: headache - TMD-related pain - Comfort of splint use with VAS 1-10 scale.

Commentaries were also invited.

The differences in splint design were not described to the patients.

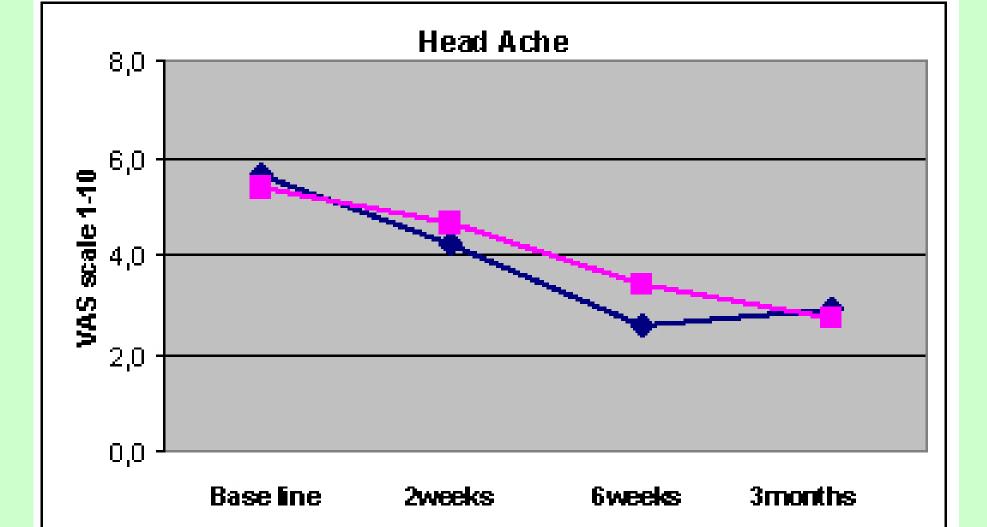
Statistical differences between pre-post scores tested with Wilcoxon signed ranks test and group differences tested with Mann-Whitney U-test.

Type a

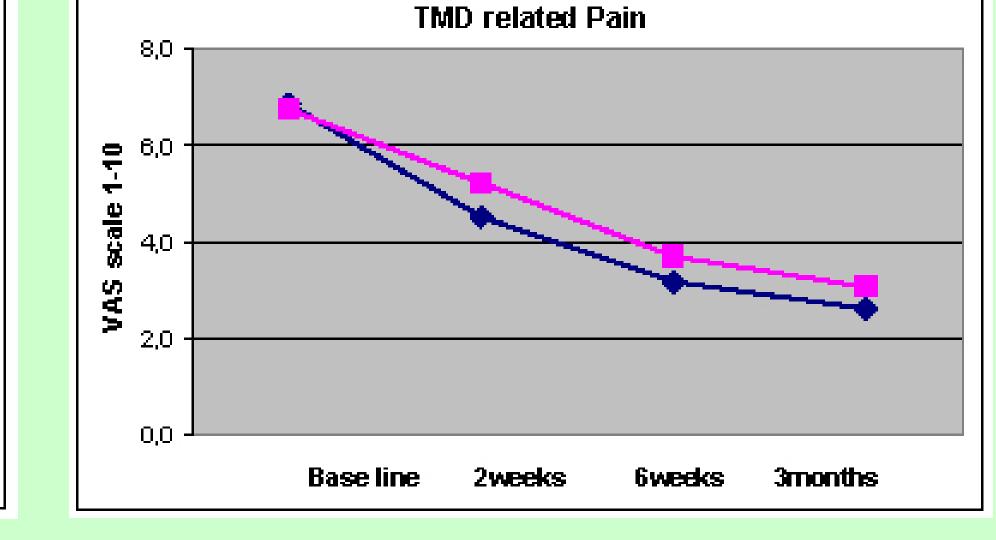




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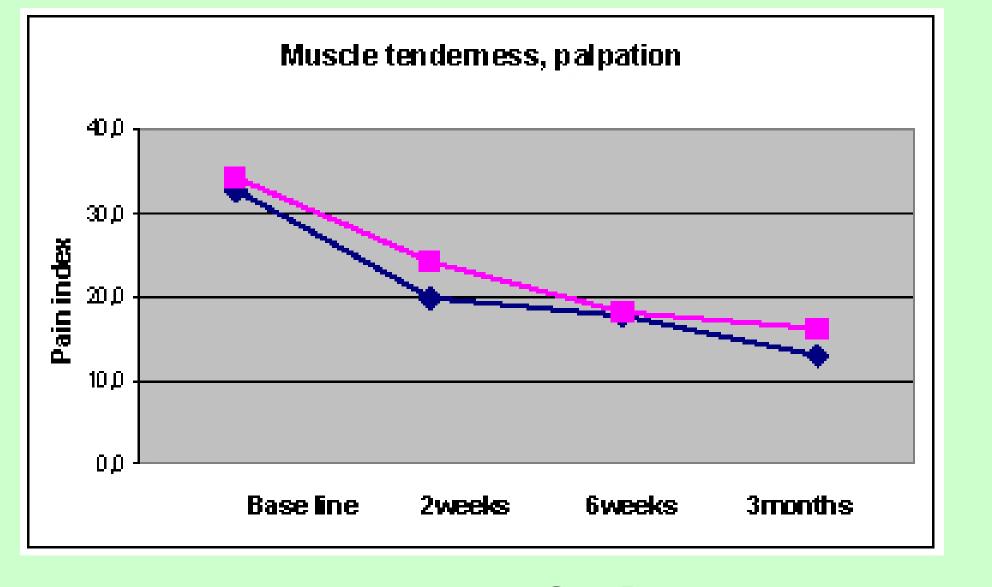


trigeminus neuralgia, both in group A.

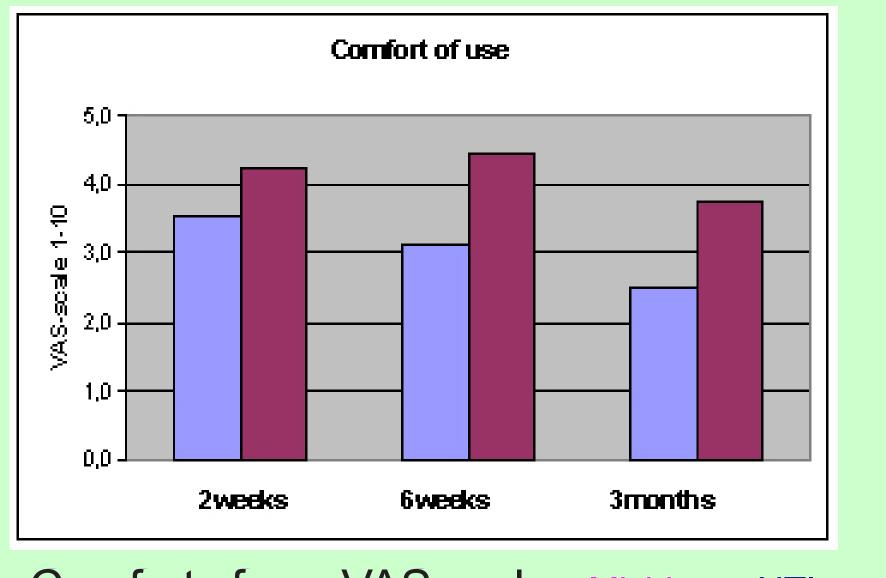


Head Ache, VAS scale. •Michigan •N7

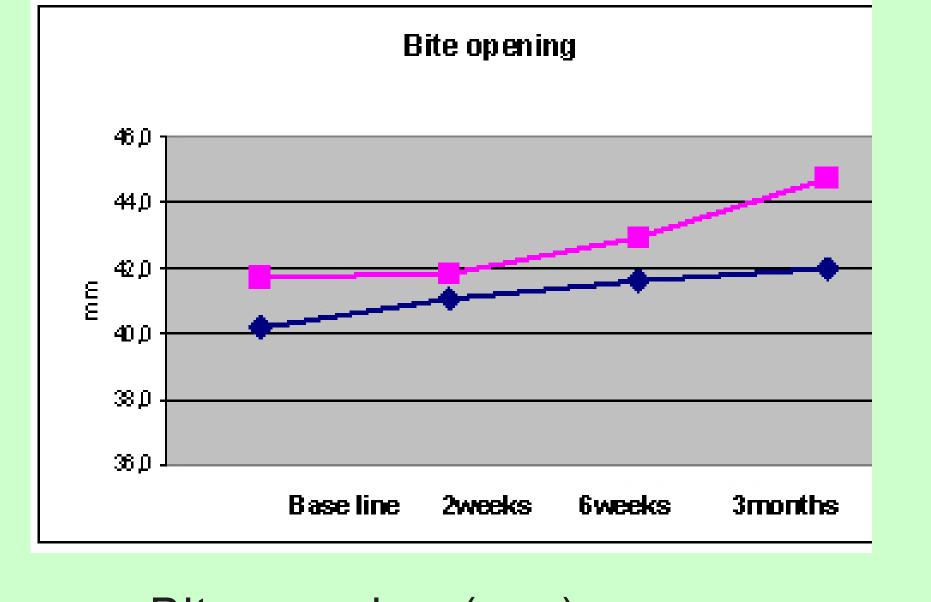
TMD related Pain, VAS scale. •Michigan •NTI



Muscle tenderness, VAS scale. •Michigan •NT







Bite opening (mm). •Michigan

Discussion

- Due to the small sample sizes the conclusions should be regarded cautiously.
- Further Randomized Controlled Trials need to be conducted to verify the findings in this study.
- The NTI splint cannot be considered scientifically validated yet.
- Questions raised associated with the NTI splint regarding adverse effects such as aspiration danger, posterior tooth supraeruption, anterior tooth intrusion and movements of teeth were not addressed in this study, but need to be taken into consideration.
- •The question still remains: is splint therapy just an intervention mainly based on placebo?

Conclusions

NTI and Michigan splints do not demonstrated differences ir treatment effectiveness of TMD patients over 3 months .

 NTI and Michigan splints are both simple and reversible therapies, while the NTI splint is easier and cheaper to fabricate.

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References

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