

Focused Shockwave Therapy

Successful Treatment of Craniomandibular Dysfunction (CMD)

The symptom complex referred to as craniomandibular dysfunction often encompasses myofascial trigger points in the masticatory muscles. These constitute a source of pain and at the same time, are key contributors to the coordination deficit of the masticatory muscles and can diminish or completely eliminate the benefits of an occlusal splint.

The use of shock waves to treat CMD will be demonstrated in the case study presented below. A surface EMG (SinfoMed 8 channel) was used to record the effect of ESWT on the masticatory muscles.



Using focused shock waves to treat CMD

Case Study

A 17-year-old patient with known bruxism for years reported increasing neck pain and frequent temple and frontal headaches persisting for days and showing limited response to analgesics. Treatment with an occlusal splint was indicated. While the patient was fitted with a splint, she reported that it was very unpleasant and ineffective.

Initial Findings

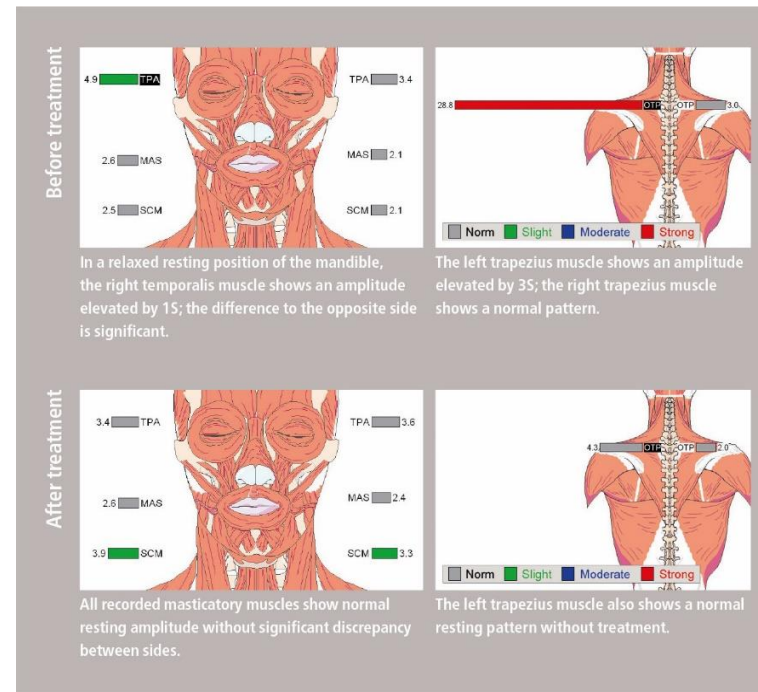
Incomplete mouth opening (< 2 fingerbreadths), deviation of the mandible towards the left with

clear subluxation of the right temporomandibular joint (TMJ). Pain on pressure in both TMJs, both masseter muscles, as well as the temporalis, sternocleidomastoid, trapezius and short neck muscles.

Segmental dysfunction of C1 and C2, shortening of the left psoas muscle with the left posterior ilium; test for variable leg length discrepancy and ISG blockade on the left positive.

Therapy

Therapy comprised treatment with focused ESWT (DUOLITH® SD1) with 0.15 mJ/mm² and stand-off II at three sessions delivered at one-week intervals. At each session 2000 pulses were applied, with 500 pulses each on the two masseter muscles and 500 pulses each on the two temporal muscles. In doing so, the muscles were



scanned and the trigger points detected were treated until there was a clear reduction of the transmission phenomenon.

In the region of the masseter muscles, the shock waves radiated into the molars, the laryngeal region and the temporal region; during treatment of the temporal muscles, the shock waves radiated into the buccal region and for reproduction of the reported headache. No other treatments were performed during this period.

Results

After 3 treatment sessions, the patient's headaches disappeared nearly completely. Mouth opening > 3 fingerbreadths was possible without deviation of the mandible from the midline. The blockades of C1, C2 and the ISG dissolved spontaneously and the test for variable leg length discrepancy was negative.

The patient no longer perceived the use of the occlusal splint as unpleasant.

Conclusions

Treatment of CMD should also include the elimination of myofascial trigger points of the large muscles of mastication, which are (also) responsible for pain and functional disorders of the masticatory apparatus. Focused ESWT is an effective method for treating CMD. The positive effect of shock waves for treating CMD could already be observed after 3 therapy sessions using surface EMG.

In the author's experience, in general, an average of 4 to 6 treatment sessions are required to achieve stable results. The results can be maintained using an occlusal splint. The therapy is combined with manual therapeutic/osteopathic methods, (auricular) acupuncture and physiotherapy.

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