Temporomandibular joint pain-dysfunction syndrome

Clinical Trial

1. Perm J. 2012 Summer;16(3):18-23.

Reductions in pain medication use associated with traditional Chinese medicine for chronic pain.

Elder C, Ritenbaugh C, Aickin M, Hammerschlag R, Dworkin S, Mist S, Harris RE.

Source

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Abstract

CONTEXT:

Participants in a randomized trial of traditional Chinese medicine (TCM) for temporomandibularjoint dysfunction (TMD) had a linear decline in pain over 16 TCM visits.

OBJECTIVE:

To investigate whether reductions in pain among participants receiving TCM can be explained by increased use of pain medications, or whether use of pain medications also declined in this group.

DESIGN:

One hundred sixty-eight participants with TMD were treated with TCM or enhanced self-care according to a stepped-care design. Those for whom self-care failed were sequentially randomized to further self-care or TCM. This report includes 111 participants during their first 16 TCM visits. The initial 8 visits occurred more than once a week; participants and practitioners determined the frequency of subsequent visits.Outcome measures: Average pain (visual analog scale, range 0-10) and morphine and aspirin dose equivalents.

RESULTS:

The sample was 87% women and the average age was 44 ± 13 years. Average pain of narcotics users (n = 21) improved by 2.73 units over 16 visits ($p < 0.001$). Overall narcotics use trended downward until visit 11 (-3.27 doses/week, $p = 0.156$), and then trended upward until week 16 (+4.29 doses/week, $p = 0.264$). Among those using narcotics, use of nonsteroidal anti-inflammatory drugs (NSAIDs) declined linearly over visits 1-16 (-1.94 doses/week, $p = 0.002$).Among the top quartile of NSAID-only users (n = 22), average pain decreased linearly over 16 visits (-1.52 units, $p = 0.036$). Overall NSAID doses/week declined between visits 1 and 7 (-9.95 doses/week, $p < 0.001$) and then remained stable through 16 visits. NSAID use also declined among the third quartile (n = 23) and remained low and stable among the lower half (sorted by total intake) of NSAID users.

CONCLUSIONS:

Among the heaviest NSAID users, we observed a short-term reduction in NSAID use that was sustained as TCM visits became less frequent. There was no indication that pain reduction during TCM treatment was influenced by drug use.

2. Med Oral Patol Oral Cir Bucal. 2012 Nov 1;17(6):e1028-33.

The efficacy of acupuncture and decompression splints in the treatment of temporomandibular joint pain-dysfunction syndrome.

Vicente-Barrero M, Yu-Lu SL, Zhang B, Bocanegra-Pérez S, Durán-Moreno D, López-Márquez A, KnezevicM,Castellano-Navarro JM, Limiñana-Cañal JM.

Source

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Abstract

OBJECTIVES:

The goal of the present study was to evaluate the results of applying acupuncture or occlusal decompression splints in the treatment of patients diagnosed with the temporomandibular joint pain-dysfunction syndrome.
DESIGN OF THE STUDY:
We conducted a randomized clinical trial including 20 patients to whom the mentioned treatments were applied. Results were evaluated through an analogue pain scale, measurements of mouth opening and jaw lateral deviation in millimetres, and assessment of sensitivity to pressure on different points: preauricular, masseter muscle, temporal muscle and trapezius. Parameters were evaluated before and 30 days after the treatment. For standardized pressure, we used a pressure algometer.
RESULTS:
Patients treated with decompression splints showed reductions in subjective pain and pain upon pressure on temporal, masseter and trapezius muscles, as well as increased mouth opening after the treatment. Patients treated with acupuncture showed pain reduction in the short term and improvements in all of the evaluated para-meters (stronger pressure was required to produce pain; mouth opening was improved).
CONCLUSION:
Acupuncture was an effective complement and/or an acceptable alternative to decompression splints in the treatment of myofascial pain and temporomandibular joint pain-dysfunction syndrome.

3. Complement TherClinPract. 2010 Aug;16(3):158-60. doi: 10.1016/j.ctcp.2010.01.002. Epub 2010 Jan 27.

Emg analysis after laser acupuncture in patients with temporomandibulardysfunction (TMD). Implications for practice.

Hotta PT, Hotta TH, Bataglion C, Bataglion SA, de Souza Coronatto EA, Siéssere S, Regalo SC.

Source

RibeirãoPreto Dental School/ São Paulo University, RibeirãoPreto, SP, Brazil.

Abstract

The aim of this study was to analyze the effect of low level laser applied to acupuncture points of patients diagnosed with temporomandibular dysfunction (TMD). Ten patients aged between 20 and 50 years were clinically examined with regard to pain and dysfunction of the masticatory system. They received laser applications (GaAlAs diode laser, 780 nm wavelength; 70 mW power output, 35 j/cm(2)) in acupuncturespecific points (Ig4, C3, E6, E7) once a week, for ten sessions. The range of jaw movement was registered after each session and visual analogue scale (VAS) was applied. Results were analyzed (SPSS-15.0-Chicago) during the comparison, before and after treatment. Statistical tests showed significant improvements ($p < 0.01$) in painful symptoms and electromyographic activities of masseter muscles in maximal habitual occlusion after laser applications but no significant improvements ($p = 0.05$) in measurements of mandibular movements. The laser therapy in specific acupuncture points promoted improvement of symptoms and it may be used as complementary therapy for TMD.

4. J OrofacPain. 2009 Fall;23(4):353-9.

Randomized clinical trial of acupuncture for myofascial pain of the jaw muscles.

Shen YF, Younger J, Goddard G, Mackey S.

Source

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Abstract

AIMS:

To evaluate the effectiveness of acupuncture in treating symptoms associated with myofascial pain of the jaw muscles.

METHODS:

Twenty-eight subjects over the age of 18 and diagnosed with chronic myofascial pain of the jaw muscles were randomized to receive real (n = 16) or sham (n = 12) acupuncture. Prior to treatment, each subject clenched his or her teeth for 2 minutes. Acupuncture or sham acupuncture was then administered at the Hegu large intestine 4 (LI4) acupoint for 15 minutes. Real acupuncture was given by penetrating the needle through a sticky foam pad at the acupoint. Sham acupuncture was conducted by pricking the skin, without penetration, with a shortened, blunted acupuncture needle through a foam pad placed away from the acupoint. General head and neck pain ratings were obtained before and after treatment on a numerical rating scale. A mechanical pain stimulus on the masseter muscle was given before and after treatment and rated on a visual analog scale to measure pain tolerance level. Paired t tests were performed to detect significant changes in pain levels.

RESULTS:

Subjects receiving real acupuncture experienced a significant reduction in jaw pain (P = .04), jaw/face tightness (P = .04), and neck pain (P = .04), and a significant increase in pain tolerance of the masseter muscle (P = .001). Subjects were not able to determine whether they received real or shamacupuncture (P = .69). No significant pain reductions were observed in the sham acupuncture group.

CONCLUSION:

A single acupuncture session using one acupoint at Hegu large intestine 4 significantly reduced most myofascial pain endpoints when compared to sham acupuncture.

5. Br Dent J. 2009 Dec 19;207(12):E26. doi: 10.1038/sj.bdj.2009.959. Epub 2009 Oct 30.

Immediate effects of microsystem acupuncture in patients with oromyofacial pain and craniomandibular disorders (CMD): a double-blind, placebo-controlled trial.

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Source

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Abstract

BACKGROUND:

Patients presenting with oromyofacial disorders and pain in the head and neck area are often resistant to conventional therapy. Acupuncture has been shown to be effective in pain reduction.

METHODS:

Twenty-three patients with craniomandibular disorders, headache and, in particular, local pain in the orofacial, cervical and temporomandibular joint areas were randomised into acupuncture or placebo lasertherapy groups. Pain was assessed by a visual analogue scale (VAS) and by palpation of 14 muscles and groups of muscles immediately before and after treatment, the assessor being blinded to the patients' allocation. Applicable acupuncture points were searched and pricked using the 'very-point' technique.

FINDINGS:

Pain reduction measured by VAS was significantly more pronounced after acupuncture than after placebo treatment (p=0.031). Sum of pain scores across 14 muscles was considerably more reduced afteracupuncture as compared to sham laser treatment.

INTERPRETATION:

Acupuncture may bring about immediate pain relief in patients with oromyofacial disorders, increasing the chance to initiate other therapeutic measures.

6. SchweizMonatsschrZahnmed. 2010;120(3):213-25.

Laser acupuncture for myofascial pain of the masticatory muscles. A controlled pilot study.

[Article in English, German]

Katsoulis J, Ausfeld-Hafter B, Windecker-Gétaz I, Katsoulis K, Blagojevic N, Mericske-Stern R.

Source

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Abstract

PURPOSE:

The purpose of this investigation was to evaluate the effectiveness of laser acupuncture within the scope of a pilot study.

METHODS:

108 adult patients were examined and of those eleven patients were included in the prospective pilot study. These patients took part voluntarily and were diagnosed with tendomyopathy of the masticatory musculature with maximum face and jaw pain on a visual analogous scale VAS > or = 30 in the last 14 days. Four patients wanted to be sure not to be assigned to the placebo group and were treated with the laser (group1, verum open, N = 4). The remaining seven were split by means of block randomisation into groups 2 (verum blind, N = 3) and 3 (placebo blind, N = 4). Two local points (ST 6, SI 18) and two distant points (SI 3, LI 4) on both sides of the body were stimulated (groups 1 and 2) or placebo-stimulated (group 3) with the LASERneedle machine for 15 minutes twice a week for three weeks (6 sessions). After three months a clinical follow-up was carried out, which included a standardised questionnaire as to the maximum pain intensity (VAS and verbal scale) and on the need for further treatment. A pain reduction (VAS) of about 50% was evaluated as a success.

RESULTS:

Pain decreased on average 40 VAS points for ten of eleven patients. The pain reduction on the VAS in group 1 (verum open) was more than 50% for all four patients, in group 3 (placebo blind) for three of four patients, and in group 2 (verum blind) all remained under 50%. The evaluation on the verbal scale showed a pain reduction from moderate to very strong pains initially, to moderate, light and no pain after three months for all three groups.

DISCUSSION:

The range of application of the laser was limited by the narrow inclusion criteria of the pilot study. The laser acupuncture (open and blinded) did not show a negative effect in any group.
The painreduction was strongest with the blinded patients of the placebo group. The worst performance was in the blinded group with laser acupuncture.

CONCLUSION:

Due to the low number of participants, no clear conclusion can be drawn. Laser needleacupuncture may be a treatment option for patients with an interest in a noninvasive, complementary therapy. But clarification and treatment planning on an individual basis must take place first.

Review

7. Curr Pain Headache Rep. 2011 Dec;15(6):444-50. doi: 10.1007/s11916-011-0223-1.

Taking care of the challenging tension headache patient.

Mathew PG, Mathew T.

Source

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Abstract

Tension type headache (TTH) is the most common primary headache disorder, but it is a diagnosis for which patients infrequently present for evaluation in the outpatient setting. Performing a thorough evaluation and establishing the correct diagnosis is essential in formulating an effective treatment plan. There are many complex issues that, although not causative, may play an exacerbating role in TTH. This article reviews the epidemiology, diagnosis, and pharmacologic treatment of TTH. In addition, nonpharmacologic treatment approaches, sleep dysfunction, and temporomandibular dysfunction are reviewed.

8. J Dent. 2011 May;39(5):341-50. doi: 10.1016/j.jdent.2011.02.006. Epub 2011 Feb 25.

Acupuncture for treating temporomandibular joint disorders: a systematic reviewand meta-analysis of randomized, sham-controlled trials.

Jung A, Shin BC, Lee MS, Sim H, Ernst E.

Source

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Abstract

OBJECTIVE:

The aim of this article was to assess the clinical evidence for or against acupuncture andacupuncture-like therapies as treatments for temporomandibular joint disorder (TMD).

DATA:

This systematic review includes randomized clinical trials (RCTs) of acupuncture as a treatment for TMD compared to sham acupuncture. The search terms were selected according to medical subject heading (MeSH).

SOURCES:

Systematic searches were conducted in 13 electronic databases up to July 2010; Medline, PubMed, The Cochrane Library 2010 (Issue 7), CINAHL, EMBASE, seven Korean Medical Databases and a Chinese Medical Database.

STUDY SELECTION:

All parallel or cross-over RCTs of acupuncture for TMD were searched without language restrictions. Studies in which no clinical data and complex interventions were excluded. Finally, total of 7 RCTs met our inclusion criteria.

CONCLUSIONS:

In conclusion, our systematic review and meta-analysis demonstrate that the evidence foracupuncture as a symptomatic treatment of TMD is limited. Further rigorous studies are, however, required to establish beyond doubt whether acupuncture has therapeutic value for this indication.

9. J Oral Rehabil. 2010 May;37(6):430-51. doi: 10.1111/j.1365-2842.2010.02089.x. Epub 2010 Apr 20.

Management of TMD: evidence from systematic reviews and meta-analyses.

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Source

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Abstract

This systematic review (SR) synthesises recent evidence and assesses the methodological quality of published SRs in the management of temporomandibular disorders (TMD). A systematic literature search was conducted in the PubMed, Cochrane Library, and Bandolier databases for 1987 to September 2009. Two investigators evaluated the methodological quality of each identified SR using two measurement tools: the assessment of multiple systematic reviews (AMSTAR) and level of research design scoring. Thirty-eight SRs met inclusion criteria and 30 were analysed: 23 qualitative SRs and seven meta-analyses. Ten SRs were related to occlusal appliances, occlusal adjustment or bruxism; eight to physical therapy; seven to pharmacologic treatment; four to TMJ and maxillofacial surgery; and six to behavioural therapy and multimodal treatment. The median AMSTAR score was 6 (range 2-11). Eighteen of the SRs were based on randomised clinical trials (RCTs), three were based on case-control studies, and nine were a mix of RCTs and case series. Most SRs had pain and clinical measures as primary outcome variables, while few SRs reported psychological status, daily activities, or quality of life. There is some evidence that the following can be effective in alleviating TMD pain: occlusal appliances, acupuncture, behavioural therapy, jaw exercises, postural training, and some pharmacological treatments. Evidence for the effect of electrophysical modalities and surgery is insufficient, and occlusal adjustment seems to have no effect. One limitation of most of the reviewed SRs was that the considerable variation in methodology between the primary studies made definitive conclusions impossible.

DENTAL PAIN
Review

10. J Acupunct Meridian Stud. 2012 Apr;5(2):51-6. doi: 10.1016/j.jams.2012.01.001. Epub 2012 Feb 4.

Alternative medicine in periodontal therapy--a review.

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Source

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Abstract

Periodontal diseases continue to be most commonly occurring oral diseases in modern times. Many therapeutic modalities have been tried and tested to relieve these problems. The conventional therapy--scaling and root planing (SRP)--stands out to be the most used mode of treatment, and other treatments remain applicable as adjuncts to SRP, including acupuncture, acupressure, and aromatherapy. The present article discusses the applications of the abovementioned therapeutic modes and their relevance in current scenarios. Alternative medicine may be preferred as an adjunct to conventional periodontal therapy to relieve pain, bad breath, gingival inflammation, mouth ulcers, and mouth sores.