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Facial Pain

Overview

Background

Facial pain commonly results from temporomandibular joint (TMJ) disorder. Many practitioners refer to TMJ disorder, or syndrome, as a single disorder but there are various sub-diagnoses (e.g. myofascial pain, temporomandibular joint inflammation). The disorder is common and most often occurs in people aged between 20 and 40 years (NICE 2009). Around 33% of the population has at least one temperomandibular symptom and 3.6% to 7% of the population has TMJ disorder with sufficient severity to cause them to seek treatment (Wright 2009).

TMJ disorder is an umbrella term covering acute or chronic pain, especially in the muscles of mastication, or inflammation of the temporomandibular joint **(Zakrzewska 2007)**. The temporomandibular joint is susceptible to many of the conditions that affect other joints in the body, including ankylosis, arthritis, trauma, dislocations, developmental anomalies, neoplasia and reactive lesions. Symptoms usually involve more than one of the numerous TMJ components: muscles, nerves, tendons, ligaments, bones, connective tissue, and the teeth. Symptoms can include difficulty in biting or chewing, jaw pain or tenderness of the jaw, clicking, popping, or grating sound when opening or closing the mouth, reduced ability to open or close the mouth, a dull, aching pain in the face, dizziness, headache or migraine (particularly in the morning), neck and shoulder pain, blinking, ear pain, hearing loss and tinnitus.

Treatment of a patient with chronic facial pain includes analgesics, NSAIDs, an occlusal splint (bite guard), cognitive behavioural therapy, physiotherapy and surgery **(Al-Jundi 2008)**.

Clinical research

This Factsheet focuses on the evidence for acupuncture in the management of facial pain resulting from musculoskeletal conditions such as temporomandibular joint (TMJ) disorder. There are also factsheets on Bell's palsy, dentistry pain, headache, migraine, neuropathic pain (including trigeminal neuralgia) and sinusitis.

There have been 4 systematic reviews on the management of facial pain in TMJ disorder (Jung 2011, La Touche 2010a, Cho 2010, La Touche 2010b). All found evidence that acupuncture may be effective, but all stated that more (and larger, longer) high quality studies are needed to confirm acupunctures effect in TMJ disorder. Many of the reviewed trials used sham acupuncture control groups (and some reviews analysed only this sort) despite the fact that sham acupuncture interventions are not inert placebos, hence

potentially underestimating the effect of real acupuncture (Lundeberg 2011). So far the indications are that acupuncture is superior to sham, to physical therapy and to no treatment, and similar to splinting. Also it is effective for both acute and chronic pain.

One randomised controlled trial (RCT) published since these systematic reviews found that acupuncture is an effective complement or an acceptable alternative to decompression splints in the treatment of myofascial pain and temporomandibular joint pain-dysfunction syndrome (Vicente-Barrero 2012). Another found that it reduced pain in TMJ disorder more than sham acupuncture (Itoh 2012). However, both of these trials are very small, so the systematic review caveats still hold.

A sample of RCTs from 2007-9 (i.e. prior to the systematic reviews) is included in the table below, to give further examples of the research in this area (Shen 2009,Sima 2009,Shen 2007,Wang 2009).

Potential mechanisms

In general, acupuncture is believed to stimulate the nervous system and cause the release of neurochemical messenger molecules. The resulting biochemical changes influence the body's homeostatic mechanisms, thus promoting physical and emotional well-being.

Research has shown that acupuncture treatment may specifically help in the management of facial pain by:

- acting on areas of the brain known to reduce sensitivity to pain and stress, as well as promoting relaxation and deactivating the analytical brain, which is responsible for anxiety and worry (Hui 2010; Hui 2009)
- increasing the release of adenosine, which has antinociceptive properties (Goldman 2010)
- inducing antinociception by activating the opioid pathway (Almeida 2008a) or the L-arg/NO/cGMP pathway (Almeida 2008b) exciting or inhibiting the anterior temporalis muscle via reflex pathways and thus smoothing jaw opening and closing (Wang 2007).

References

Al-Jundi MA, John MT, Setz JM et al. Meta-analysis of treatment need for temporomandibular disorders in adult nonpatients. Journal of Orofacial Pain 2008; 22(2): 97-107.

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