

## Pain and Pharmacotherapy in Temporomandibular Disorders

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## Editorial

Temporomandibular Disorders (TMDs) are comprised of varied conditions that result in Temporomandibular Joint (TMJ) pain, masticatory muscle pain or both. Chronic TMD-related pain may radiate or be referred to adjacent oral, cranial, facial and cervical regions [1]. The Research Diagnostic Criteria (RDC/TMD) provides differentiation of the physical manifestations of TMD for the analysis of underlying pathophysiology of pain in these disorders. The RDC/TMD divides TMDs into three diagnostic categories: (i) masticatory muscle pain, (ii) TMJ disc displacement and (iii) other joint conditions (arthralgia, arthritis, and arthrosis) [2].

The underlying pain mechanisms in TMDs remain poorly understood [3]. The correlation between the severity of pain complaints and evidence of definitive pathophysiology is often poor. This has led to the concept that pain in some proportion of patients may result from altered central nervous system pain processing, and that this altered pain processing may be attributable to specific heritable genes [3].

Analgesic drugs are an integral part of the primary treatment for TMD-related pain and dysfunction with more than 90% of treatment recommendations involving use of medications [4]. The most commonly used agents include Non-Steroidal Anti-Inflammatory Drugs (NSAIDs), corticosteroids, muscle relaxants, anxiolytics, opiates and Tricyclic Antidepressants (TCAs) [1].

Non-Steroidal Anti-Inflammatory Drugs (NSAIDs), which are both analgesic and anti-inflammatory, are considered the first choice of drug to relieve TMD pain [5]. Studies demonstrating the efficacy of this class of drug have been limited mainly to a few agents. The NSAID diclofenac, given at the maximum suggested therapeutic dose of 50 mg orally three times per day, has been reported to reduce pain in TMJ arthritis patients by more than 50% over 3 months [6]. In a different, double-blinded, randomized study, the NSAID naproxen sodium (500 mg twice daily) was found to reduce TMJ pain by more than 50% compared to placebo [7]. A high efficiency of TMD pain relief is shown with ibuprofen (average daily dose of 400-800 mg) and meloxicam (average daily dose of 7.5-15 mg) [8]. Pain relief may result more from the anti-inflammatory effect of NSAIDs than their analgesic action. The question whether pain relief demonstrated in these short duration clinical trials is maintained over months to years is yet to be answered.

Muscle relaxants (baclofen, tizanidin, and cyclobenzaprine), opiates (morphine), anticonvulsants (gabapentin) and TCAs (amitriptyline) have been used clinically for TMJ management, but there is no sufficient evidence for their efficacy [8]. Invasive treatment options include intra-articular injections of sodium hyaluronate and corticosteroids.

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