Pharmacologic Treatment for Temporomandibular Disorders

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KEYWORDS

• Pharmacologic treatment • Temporomandibular disorders • Pain

KEY POINTS

- Temporomandibular disorders and its associated pain and dysfunction are known to be multifactorial in cause with many contributing causes, and consequently, the treatment of this condition is varied.
- Pharmacologic agents play an integral role in the overall management of temporomandibular joint disorder.
- A thorough knowledge of the various pharmacologic agents used in the treatment of temporomandibular dysfunction/temporomandibular joint disorders and pain is essential for the dentist or oral surgeon who wish to manage this segment of his or her clinical practice.

The use of drug therapy in the treatment of temporomandibular dysfunction/temporomandibular joint disorders (TMD/TMJ) should be viewed as merely adjunctive treatment as opposed to definitive treatment of this disorder. Temporomandibular disorders and its associated pain and dysfunction are known to be multifactorial in cause with many contributing causes, and consequently, the pharmacologic therapy used in treatment of this condition is varied (**Box 1**).

Most often,[1] inflammation is present either in the joint and its surrounding capsule or within the muscles of mastication. In addition, like many chronic facial pain conditions, anxiety and possibly depression may also contribute to the patient's symptoms. In addition, muscle spasms are often found to be associated with TMD/TMJ disorders caused by chronic clenching and hyperactivity of the masticatory musculature.

Finally, like many chronic facial pain conditions, there may over time develop a neuropathic cause for the patient's TMD/TMJ pain as well. Clearly with these varied

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Box 1
Drugs used in the treatment of temporomandibular dysfunction/temporomandibular joint disorders

- NSAIDs
- Opioids
- Corticosteroids
- Antidepressants
- Muscle relaxants
- Sedative, hypnotics

etiologic factors, a clinician should be familiar with the different drug therapies noted in the literature to treat the various underlying etiologic condition associated with TMD disorders.

Certainly, as stated earlier, one must first perform a thorough physical/diagnostic survey of the patient with TMD/TMJ to determine the primary reason for the patient's presenting condition and address those concerns by instituting a variety of possible therapeutic interventions in addition to drug treatment:

- Muscle trigger point injections
- Fabrication of a splint/stent
- Instituting physical therapy
- Heat/cold applications to the involved muscles
- Arthrocentesis/arthroscopy
- Open joint surgery

However, medication management will often and should play a role in the overall management of the patient with TMD/TMJ. This article reviews the common types and categories of such drugs commonly in use and also discusses techniques and drugs used to perform intramuscular and intra-articular injections to treat temporomandibular disorders.

ANTIDEPRESSANTS

The biomedical literature supports the use of antidepressants to treat chronic nonmalignant (such as TMD/TMJ) pain, and multiple reviews of controlled studies of the use of antidepressants for pain management indicate that their analgesic effects are largely independent of their antidepressant activity.[2]

Studies in patients with nondental chronic pain also indicate that antidepressant medications, such as Amitriptyline, that inhibit both the reuptake of serotonin and norepinephrine, are more efficacious than drugs that are selective for either neurotransmitter.[3–5]

Analgesia occurs well before the antidepressant effect and at lower doses that are not effective for management of depression in many patients with chronic pain. This finding was confirmed in a study by Sharav and colleagues,[6] who showed that a low dose of Amitriptyline (mean dose 23–6 mg) was as effective for chronic orofacial pain as a higher dose (mean = 129 mg). The usual daily antidepressant dose of Amitriptyline is 75 mg to 150 mg daily.

The current biomedical literature supports the use of tricyclic antidepressants, such as Elavil (amitriptyline hydrochloride), which contains both serotonergic and