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Therapeutic approach to patients with chronic orofacial pain with temporomandibular disturbed

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Abstract

Temporomandibular disorder (TMD) is a term that encompasses a series of dysfunctions and disorders that affect the temporomandibular joint (TMJ), masticatory muscles and associated structures. These disorders are characterized by a set of signs and symptoms that may include joint noises, such as clicking and crackling, tooth wear, limited mandibular movement, accompanied or not by facial, cranial and periauricular pain. Here, we reported the clinical conduct of a patient with muscle TMD. Patient with chronic pain complaint in the cervico-craniofacial region, signs of bruxism, mouth opening limitation and masseteric hypertonia. The diagnosis was TMD of bilateral masseteric muscle origin, without trigger points. Heat thermotherapy was prescribed, myofacial and myofunctional physiotherapy, rigid Michigan stabilizer plate making, postural correction, and cognitive-behavioral therapy. The patient presented a gradual evolution of the clinical condition and after 90 days reported remission of approximately 95% of the symptomatological complaints, such as an improvement in the quality of sleep at night, without medication assistance, reduction in pain crises, and full mouth opening (44mm). It is concluded that the correct diagnosis and full patient adherence to the treatment proposed in this study provided relief in painful symptoms and biopsychosocial aspects.

Keywords: Temporomandibular disorder; Bruxism; Chewing; Orofacial pain.

Introduction

Temporomandibular disorder (TMD) is a term that encompasses a series of dysfunctions and disorders that affect the temporomandibular joint (TMJ), masticatory muscles and associated structures [1]. These

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disorders are characterized by a set of peculiar signs and symptoms, which may include joint noises, such as clicking and cracking, tooth wear, pain in the masticatory muscles, limitation of jaw movement, facial pain, headaches and pain in the temporomandibular joint, in addition to pain in the periauricular region [2].

Epidemiological studies show the presence of signs and symptoms of TMD in all age groups, and its incidence generally increases with age [3]. Such studies show that a large portion of the population presents signs and/or symptoms of dysfunction at subclinical or clinical levels, thus finding a high prevalence of dysfunction in individuals considered non-patients, that is, those who do not seek treatment [4].

Over time, some theories have been proposed to explain the etiology of TMD. These theories generally considered a single factor to cause such dysfunctions. Over the years, entities specifically dedicated to the study of TMD were created, with new scientific studies emerging that attributed multifactoriality to temporomandibular disorders, involving anatomical factors such as occlusion and TMJ, neuromuscular factors such as muscle hyperactivity, deviations posture, psychological factors (anxiety, stress and depression), trauma and parafunctional habits [5].

Parafunctional habits are very common, and have been considered possible causes of TMD. Parafunctions, in contrast to functional behaviors such as chewing, swallowing and speaking, appear to have no functional purpose. These harmful habits would be a means of unconscious release of emotional tensions [6]. They usually do not damage the stomatognathic system, however, when such activity exceeds the individual's physiological tolerance, it can damage the dentition, musculature or TMJ [7].

Parafunctional habits can happen while awake or during sleep. When they occur during wakefulness, they include clenching the teeth, biting the lip, cheek or other objects, digital sucking, chewing gum, supporting the hand or objects under the chin, moving the jaw without a defined purpose and without tooth contact (jaw play), as well as others habits that the individual performs consciously or not [8].

Orofacial Pain and Temporomandibular Disorders is recognized as a dental specialty by the Federal Council of Dentistry (CFO) where the aim is training specialist professionals to dedicate to this particular specialty. Many patients affected by TMD's are misdiagnosed with neurological, infectious or even oncological pathologies, due to lack of technical knowledge on the subject, especially by medical professionals. Thus, there may be chronicity and masking of pain signs due to the adoption of inadequate pharmacological therapeutic proposals [3].

Therefore, the correct diagnosis based on an efficient anamnesis is essential for the adoption of an adequate therapeutic proposal, which in most cases is conservative, minimally medicated, non-invasive and of low cost. The aim of this study was to report a clinical case of a patient with muscular temporomandibular disorder with chronic pain treated with conservative and multiprofessional therapy.

Case report

Patient female, 41 years old, with chronic and intense pain complaint in the cervico-craniofacial region, was referred to the Pain Clinic of Iguaçu University – Itaperuna-RJ/Brazil. The anamnesis was normosystemic, Glasgow 15, was denied comorbidities, traumas, allergies or parafunctional habits.

The patient reported the use of seven medications to control pain, anxiety, sleep and depression, covering different pharmacological classes, including anxiolytics, psychotropics and opioid analgesics, all under medical prescription. On physical examination, was observed at ectoscopy: brachycephalic profile (Figure 1A and 1B), masseteric hypertonia, complaints of pain when manipulating trapezoidal, cleidomastoid and temporal muscles bilaterally, grade 8 on the Visual Analog Scale (VAS).

Figure 1: Patient head profile (Brachycephalic). (A) Front view; (B) Side view.

At oroscopy it was observed a moderate mouth opening limitation (23mm) (Figure 2), generalized incisal wear, bilateral cheek mucosa traumatic lesions, and interference in canine and incisal guides. The radiological examination suggested degeneration of the condyle fossa bilaterally (Figure 3). The DC/TMD questionnaire (axis I and II) was applied for the diagnosis of TMD's [9]. The patient was diagnosed with TMD of bilateral masseteric muscle origin, without trigger points.

Figure 2: Initial assessment of mouth opening. (A) Digital; (B) Ruler.

Figure 3: Panoramic radiograph of the patient showing degeneration in the condylar fossae.

In the same consultation, the patient was instructed to use thermotherapy using moist heat for 20 minutes, three times a day in the region of the masseters, free active exercise of mouth opening and closing with the tip of the tongue on the incisive papilla, three sets of ten repetitions - three times a day, and sliding massage with 20 movements from the origin to the insertion of the masseter. The therapeutic proposal also contemplated myofascial and cervico-trapezoidal physiotherapy; myofascial and myofunctional exercises; postural correction; psychological and psychiatric monitoring for biopsychosocial factors.

After 30 days, the patient was re-evaluated informing have followed the entire therapeutic prescription. Within the scope of physiotherapy, sessions of ultrasound, laser therapy and face exercises were carried out. The patient started following Pilates routine, cognitive behavioral therapy, all followed by psychiatric drugs weaning and further suspension. In this first evaluation after anamnesis, the patient reported a significant improvement in the clinical condition, without recurrent painful events, beyond the reduction in degree and type of craniofacial pain.

For dental protection purposes as a result of tightening and nocturnal bruxism, a Michigan stabilizer plate was prescribed (Figure 4A/B). In the 60th day of preservation, the patient reported had sought an outsourced prosthetic service for molding and plate making. However, this was not the proposed model and it caused a recurrence of craniofacial pain crises worsening the clinical condition due to use of the device. It was then recommended to suspend the use and make a new plate within the parameters established by the clinical staff specializing in TMD. In the 90th day of proservation, the patient reported approximately 95% of improvement on the initial main complaint and life quality.

During clinical examination, has been reported an improvement in night sleep quality, out of medication; very few pain crises with low intensity and duration. The paciente presented a full mouth opening, 44mm (Figure 4C).

In the psychiatric field, just one pharmaceutical formulation has been continued and was incorporated swimming into the sports routine. When asked about the perception of improvement, the patient praised the therapeutic proposal and felt safe to be discharged from the clinic. Therefore, the patient's clinical discharge was recommended, with appropriate referrals for oral and aesthetic rehabilitation; maintenance of the initial therapeutic proposal and use of the stabilizer occlusal splint indefinitely.

Figure 4: (A) Mouth opening after 90 days of treatment; (B) Occlusal stabilization device; (C) Patient in occlusion using the stabilizer plate.

Discussion and Conclusion

An adequate therapeutic approach for orofacial pain should aim to alleviate the main signs and symptoms of this condition, often requiring a multidisciplinary intervention. There are many possibilities of treatments that can be performed by the dental surgeon together with professionals from other areas of health, such as physiotherapists, psychiatrists, psychologists and speech therapists.

Conservative treatments for TMD include medication, physiotherapy, patient education (such as guidance to avoid over-opening the mouth), muscle exercises, relaxation techniques, acupuncture, and interocclusal devices (stabilizing pads). Currently, a conservative treatment approach prevails over surgery, as it is less aggressive and generally results in satisfactory clinical results from mild to moderate TMD [10-11].

Among all existing protocols, on the other hand, physiotherapy has been shown to be effective in the management of TMD, especially with regard to improving joint range of motion, and a referral should be considered in refractory cases. This therapeutic discipline aims to alleviate pain, reduce inflammation and restore motor function using numerous techniques, including manual therapy (e.g., joint manipulation, soft tissue mobilization), therapeutic exercises, electrotherapy (e.g., low-level laser therapy, transcutaneous electrical nerve stimulation, therapeutic ultrasound, short waves), dry needling and acupuncture [12].

Thermotherapy is the oldest method in the practice of physical rehabilitation. Its effects include vasodilation, improved metabolism and local circulation, muscle relaxation, analgesia, reduced joint stiffness, increased collagen tissue extensibility and muscle spasm relief [13]. The application of heat produces an analgesic effect, applied to musculoskeletal and neuromuscular disorders, generating relaxation and a musculoskeletal antalgic reduction,

increasing elasticity and simultaneously decreasing the viscosity of the connective tissue. Its analgesic effect results in reduced pain intensity [8].

Physical therapy is a treatment option for the rehabilitation of individuals with TMD. The repercussions and benefits of its resources and procedures can minimize or eradicate signs and symptoms, contributing to an improvement in life quality, aiming to reestablish the normal function of the TMJ and associated structures [11]. Added to this, physiotherapy provides conditions for the control of tone and movements, acquisition of postures and normal patterns, aiming to inhibit pathological reflex activity and facilitate movement [7].

Cognitive-Behavioral Therapies (CBT) include a psychotherapeutic intervention, which is a combination of cognitive and emotional approach and a set of behavioral procedures. It seeks to provide autonomy to the patient, thus achieving total relief or reduction of symptoms. CBT is intended to be an empirically validated form of intervention, whose effectiveness has already been tested for a large number of psychiatric disorders [14].

The CBTs can be classified into three main divisions: 1) coping skills therapies, with the objective of providing the patient ways to deal with problematic situations; 2) problem-solving therapy, which emphasizes the development of general strategies for dealing with personal difficulties; 3) cognitive restructuring therapies, which emphasize changing disturbing thoughts and promote adaptive thoughts. It also stands out that the patient is the active agent of his own treatment and that CBT adresses the patient's specific disorders and problems, including self-control issues and general problem-solving skills [15].

In view of the aforementioned techniques applied to the patient under study, it was found that there was an important relief of symptoms as well as a biopsychosocial improvement, since all of them have an important relevance in the relief of muscle TMD symptoms, especially during the period of labor activity, in which there is biopsychosocial interference in the symptoms.

For the present study, it is concluded that the correct diagnosis of temporomandibular disorders based on an adequate clinical examination with the add of a holistic and multidisciplinary therapeutic proposal can result in successful treatment and the improvement in the patient's life quality.

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