Temporomandibular disorders: a multidisciplinary issue

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INTRODUCTION

Temporomandibular disorders (TMD) are a group of functional disturbances of the mastigatory system, including muscle, joints and pain dysfunction. Due to a significant variability of how signs and symptoms appear in this patients, early diagnoses often fail, allowing a negative evolution of the disease and making them more difficult to treat properly. Some of the most common complaints experienced by this patients are symptoms like headache, ear and face ache, that make them recour to other specialists, expecting relieve of their pain. The aim of this article is to alert for the importance of every health professional to understand the subject, to accordingly refer those cases. Relieve and satisfaction related by patient’s trough finally understands the source of their suffering is important and even considered in literature as a treatment modality. Temporomandibular disorders include a group of musculoskeletal pathologies, mostly chronic, that no health care person should neglect. Specialized dentists, involved in team approach, command the therapeutic approach, even this not being considered as a kind of dental condition. It is crucial to detect the source of acute and recent pain, in a stage that allows a reasonable treatment success, avoiding chronic stages where pain detaches from temporomandibular disorders and becomes the disease, often untreatable. In chronic patients, pain may result from tissue aggression, neuropathy (central or periferal), or psychopathological disturbances.

ETIOPATHOGENY

The biopsychosocial model comprehends the activation of pain pathways by an interception of psychological factors, biological factors, social factors, determining the individual adaptive potential to aggressions. Under influences that exceed the balance maintenance capacity, the system becomes dysfunctional because: defenses decrease, or they act in a more intense way, or they act longer. Stress and functional abuse are good examples for this pathway. This implies a holistic approach to each patient, including his psychosocial environment. There are precursory factors, such as genetics (susceptibility to pain), psychological antecedents, orthopedic instability (occlusion) and trauma. The same factors can act as precipitating factors, where genetics plays a role in pain perception and finally, as a perpetuating factors, also genetics, psychosocial, orthopedic and traumatic ones.

DIAGNOSES OF TMD

As “physicians of the mouth”, we are responsible to diagnose TMD/oral pain. An accurate anamnness and clinical observation, is determinant for the diagnoses. And, early diagnoses prevent acute pain conditions from developing into chronic ones. The identification of physical and psychological factors allows predicting responses to therapeutic interventions.

Evidence based medicine is an aim for ever responsible clinician. The research in this field is now focused on: how the mind and the body interact, according to the biopsychosocial model for chronic pain (genetic and environmental susceptibility factors; neurology); treatment planning and intervention from a medical perspective, that involves orthopedic principles, combined with a biopsychosocial understanding and pain management (pharmacology; psychology). Due to the lack of studies allowing a secure cause-effect relationship determination in this area of knowledge, we shouldn’t neglect external evidence neither give up of reasonable and effective treatment. One should be aware of comorbid conditions. The presence of severe headache, back, abdominal or chest pain is a better predictor of TMD than depression. 55% of patients sufering from recurrent headache, have pain related with TMD.

One could characterize a patient’s universe in three categories, concerning physical factors: physiological intact structures or structures in progressive adaptation, who allow to may proceed to preventive measures; system in compensation, including system lability. This are the most difficult patients to identify and, simultaneously, the critical ones, where introduction of important occlusal changes in treatment planning should be preceded by functional therapies, in order to prevent iatrogenic pathology. Finally in the group of unbalanced system, in regressive adaptation, which diagnosis is more obvious, functional symptomatic therapy is indicated, till the system is compensated.

But, how will we know witch kind of patient we’re facing with? By completing the information gained through anamnness (with includes psycho social diagnoses) with the exploring of mastication muscles, looking for miofascial pain, and for trigger points for referred pain. This should be completed by functional and structural analyses. This orthopedic exploring techniques, allows an early detection of functional disorders. Thereby, we will not only be aware of risk situations but also be able to plan carefully the treatment. An example is the survey of articular surfaces, done by dynamic compression. First, performing a reference: while palpating the temporomandibular joints areas, the patient protrudes, followed by opening, with palpation. After, the clinician carries out a ventrocranial compression, during protrusion, followed by opening. If there is no noise and without pain, it may be assumed the articular surface to be adapted. But, if dynamic compression provokes or enhances noises, with or without pain, one can assume to face a compensated articular surface, with osteoartrosis, if with pain is present. A painful articulation during active movement and and during dynamic compression signalizes a degenerated articular surface. Performing the research diagnosis criteria for temporomandibular disorders, a dual axis system, to classify and quantify...
physical and psychosocial components, is important. Axis I assesses multiple physical diagnoses, allowing to separate the cases in 3 disorders groups: I muscle disorders, II disc displacements, and III, other joint conditions (arthralgia, osteoarthritis, osteoarthrosis). Axis II, focused on psychological assessment, uses questionnaires to clarify impairment, disability and pain intensity.

**THERAPEUTICS**

Therapy of TMD should be performed in a multidisciplinary approach, where the dentist takes the responsibility for the specific indications for each case. Listening and understanding the patient as also explaining and clarifying the situation is considered of crucial importance, in modulating the psychological and cognitive components of pain. Psychotherapy, physiotherapy, as other medical treatments, are often indicated. Biofeedback /autogening training, acupuncture, are precious complementary therapies. In some cases medication is needed. The dentist has also an important role in cases with indication for restoring orthopedic equilibrium. This can be achieved by occlusal splints, restoring dental guidances, correcting Spee and Wilson curvatures, selective grinding of gross prematurity’s, orthodontic and prosthetic therapy, when indicated for oral rehabilitation purposes. These therapies always rely on correct planning and prosthetic procedures. Treatment planning has to be judicious, based on objective criteria; still occlusion is a very important subject within the profession of dentistry, especially as it pertains to orthodontics, restorative dentistry and prosthodontics. Occlusal splints are often used, before any irreversible treatment is done. Going from a pre-therapeutic stage to a definite prosthetic phase treatment is difficult and sometimes a source of errors. Therefore, we should follow certain rules in order to minimize these errors and obtain a final prosthetic treatment as functional as the provisional one. Such are: to maintain a holistic approach to each patient, including his psychosocial environment; to take control before irreversible treatment. Dentists can take a “low-tech and high-prudence” therapeutic approach to TMD patient care. As oral rehabilitation should do no harm, one should act carefully, until science finds acceptable answers. It is important to include patient’s criteria for success, as balance costs, benefits and risks.

**CONCLUSIONS**

This concept implies that every health care person should be aware of the possibility of facing an undiagnosed temporomandibular patient, who needs to be referred. And, for dental professionals, to assume the rule that all patients should be examined concerning their functional and psychological condition before making a treatment planning. Therapeutic long-term success depends on a correct diagnosis and individualized planning, is technique sensitive, and is influenced by orthopedic and psychological stability.

**REFERENCES**