

Maxilla to Mandible

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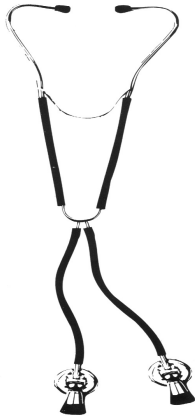
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Editorial

More than half of all *Trigeminal Neuralgia* patients have unnecessary dental work done before they are correctly diagnosed; some have many procedures such as root canals. Though dental problems are the cause of most acute facial pain, if one or two procedures don't bring relief, it should be obvious that something else is involved.

Ninety five percent of face pain is related to dental disease. In fact, TN is so rare that a typical dentist may see only one patient with it during an entire career. It affects only about four in every 100,000 people. Newer studies are needed to determine current incidence of TN and related facial pain conditions.

TN and some other types of face pain are generated by altered nerve function. TN patients often experience excruciating spasms of pain triggered by something harmless like a breath of

wind on the cheek. Dysfunctional nerves can also produce other symptoms: burning mouth, atypical odontalgia, and atypical facial pain.

There are several clues that should lead us to suspect that a patient is experiencing nerve pain because of a disorder such as TN. First of all, the quality of the pain is different. Dental pain is generally associated with inflammation, which produces a deep, dull ache, quite unlike the jolting paroxysms of TN. In addition, anti-inflammatory medications don't relieve nerve pain, and the pain persists after the inflammation subsides. Sometimes a specific, traumatic event can be linked to the onset of symptoms.

Early symptoms of TN can be mild and feel like a toothache. Some patients have a root canal and afterward their TN gets worse; they begin to

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have the typical, stabbing pain of trigeminal neuralgia and it seems as if the root canal caused the disorder.

Dental procedures however don't cause classical trigeminal neuralgia. If TN pain is under control or actually in remission, there isn't much risk that a dental procedure will make it worse. However, if it's not under control or if dental visits have aggravated the pain the past, precautions are in order. Local anesthetic can be used in the pain and trigger point areas, even for minor procedures like teeth cleaning. Pre-emptive pain management for major work involves profound and prolonged anesthesia with the use of pain-killers. This will lessen the likelihood that pain will flare up afterward.

In addition, the General Practitioner may want to adjust the dosage of the normal TN medications to maintain comfort. Anti-inflammatories may be used following the procedures.

TMJ Fractures in Children

TMJ fractures can affect dentofacial development, especially in young patients who are still in a growth stage. Thus, an early diagnosis and a correct treatment are essential to avoid or limit negative impacts on facial development. Clinical and radiological examinations are recommended even in patients with few symptoms. Where possible, magnetic resonance imaging and other sophisticated methods should be used.

Depending on the extent of damage, treatment may involve drugs, physiotherapy, or functional appliance therapy. The outcome of the treatment should continue to be monitored using clinical and radiographic examinations until the end of growth.

Following these recommendations was successful in the case of a three year old girl who had fallen and cut her chin. A change in occlusion required a functional appliance therapy. She was monitored clinically and radiologically one, three, six and 12 months after this treatment began and then routinely monitored once a year after that. After 18 months, the condylar angulation was almost back to normal. Three years after the accident, occlusion and mandibular movements were normal and no facial asymmetry was present.

J Clin Pediatr Dent: 27: 191-200, 2003

Efficacy of Stabilization Appliance Therapy

After 10 weeks of treatment, patient with TMJ disorders of mainly myogenous origin using a stabilization appliance showed a greater reduction in overall symptoms, a higher reduction in pain, and fewer tender muscles than those using a non-occlusal appliance. These outcomes were achieved with wearing the appliances only at night. Follow-up will continue to determine if these outcomes are maintained over the long term.

J Oral Pain 17: 133-139, 2003

TMJ Injections and Rhematoid Arthritis

At follow-up of 12 years for patients given intra-articular injections into the TMJ, two thirds of the patients were free from symptoms, including TMJ pain and tenderness. For those with persistent symptoms, the effect on function was moderate. There was an increase in mandibular mobility, and a decrease in pain on mandibular movement. Because there was not much radiological change in the TMJ, the development of joint destruction was considered low.

Swed Dent J 26: 149-158, 2002

Muscle Tenderness in the Craniocervical and TMJ Systems

This study found a correlation between muscle tenderness in the craniocervical and the temporomandibular systems in patients with internal derangements (ID), which was attributed to the two systems being closely related in function. Neck muscles may be involved because of the kinetic chain of motion between the temporomandibular system and the cervical area.

The authors found that pain upon pressure of the cervical muscles and shoulder muscles in subjects who had muscle tenderness of the TMJ system was considerably higher than in subjects who did not have TMJ tenderness. There were significant limitations on movement in the cervical spine of patients with ID, but they did not complain of these problems. Therefore, even if ID patients do not mention pain symptoms in the cervical spine area, these patients should also have their craniocervical system examined.

Therapeutic Exercise for Clicking

Therapeutic exercise shows promise for reducing clicking. In this study, the success rate was 62%, which is similar to that for a repositioning splint. The exercise involved opening the mouth as wide as possible with the opening click and then closing the mouth along the protrusive order movement path. Next, the teeth are contacted at the protruded position and then returned to a contact position just before the click occurs. The last step involves opening the mouth wide again without the opening click.

The exercise was repeated for five minutes after each meal. Because the number of disks recaptured was small, whether long-term results will be as positive is unclear. However, therapeutic exercise is simpler and more cost-effective than splint therapy or surgery and can be easily repeated if the clicking returns.

J Craniomandib Prac 21: 10-16, 2003.

Orthodontic Treatment and TMJ

In a study of the long-term effects of orthodontic treatment for TMJ disorder, subjects completed a questionnaire after 20 years. The oldest group among the patients studied was 35 years old and 100 of them were clinically examined.

In general, those who had undergone orthodontic treatment during childhood did not have a statistically significant higher risk of developing TMD signs or symptoms, but subjects who had no orthodontic treatment did report more subjective symptoms.

This study did not pinpoint any one occlusal factor which was most important for developing TMD, but patients with a lateral forced bite between retruded contact position and intercuspatal position, as well as unilateral crossbite, may be at higher risk of TMD.

Angle Orthod 73: 109-115, 2003.

Unilateral Open Bite and TMJ Disc Displacement

After the onset of joint noises, a 22 year old woman developed bilateral jaw pain and an open bite on the left side. After treatment, the pain resolved although the open bite remained. Several months later magnetic resonance imaging (MRI) showed a disc displacement without reduction on the right side, and abnormally thickened posterior attachment, and a biconvex configuration of the disc on the left side. This resulted in the incomplete translation of the left TMJ. Joint effusion was more severe on the left, where the patient's open bite was more pronounced.

This case illustrates that a unilateral open bite should warn the clinician of an impending hyperplastic disc and that MRI is useful for determining the type and severity of disc displacement. The posterior open bite also has to be monitored closely for improvement.

Gen Dent May: 256-258, 2003.

TMD and Fibromyalgia

Fibromyalgia (FM) is a condition involving widespread pain and pain on palpation at a minimum of 11 of 18 specific tender points. Patients with this condition have similar symptoms as those with TMD, including myalgia, fatigue, sleep disturbances, and more depression. Thus, there may be a link between the two disorders

because of their similarities, which also include pain sensitivity, concentration difficulties, bowel complaints, and headache.

The management of FM and TMD use many of the same therapies, which are usually based on a multidisciplinary approach. It is thus possible that FM and TMD are actually the same disease, with TMD representing the localized occurrence.

Gen Dent Mar-Apr: 184-187, 2003.

Temporomandibular Joint Effects of Activator Treatment: a Prospective Longitudinal Magnetic Resonance Imaging and Clinical Study

The Activator is a removable functional appliance used to correct class II, division 1 malocclusion. When the patient bites into the appliance, the mandible advances to a protrusive position. The effect of this device on 30 children averaging around 11 years was analyzed.

During the one-year investigation period an average overjet reduction 50 % was observed. However, a class I molar relationship could not be achieved in all patients, which may be due to the short observation period and the lack of cooperation in some of the patients.

The tendency of an anterior condylar position within the fossa pretreatment also increased after treatment, as did the prevalence of subclinical capsulitis of the inferior stratum of the posterior attachment. However, the Activator did not change the disc-condyle-fossa relationship nor could it reposition a pretreatment disc-displacement. The degree of compliance also did not affect the disc-condyle relationship or the reaction of the posterior attachment of the TMJ.

Angle Orthod 72: 527-540, 2002