

Spring 2011

Dear Colleague:

As always, we wish to thank you for your trust and the wonderful patients referred to our office.

This quarters newsletter covers the following topics...

1. Influence of Headache Frequency on Clinical Signs and Symptoms of TMD in Subjects with Temple Headache and TMD Pain
2. Determinants of Treatment Outcome After use of the Mandibular Advancement Device in Patients with Obstructive Sleep Apnea
3. The Association between Neck Disability and Jaw Disability
4. Aural Symptoms in Patients with Temporomandibular Joint Disorders



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Regards,

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headaches; and 149 subjects without painful TMD or headache for descriptive comparison. Painful TMD included Research Diagnostic Criteria for Temporomandibular Disorders diagnoses of myofascial pain, TMJ arthralgia, and TMJ osteoarthritis. Mild to moderate-intensity temple headaches were classified by frequency using criteria based on the International Classification of Headache Disorder, 2nd edition, classification of tension-type headache. Outcomes included TMD signs and symptoms (pain duration, pain intensity, number of painful masticatory sites on palpation, mandibular range of motion), pressure pain thresholds, and temple headache resulting from masticatory provocation tests.

Trend analyses across the painful TMD groups showed a substantial trend for aggravation of all of the TMD signs and symptoms associated with increased frequency of the temple headaches. In addition, increased headache frequency showed significant trends associated with reduced PPTs and reported temple headache with masticatory provocation tests. *In conclusion, these findings suggest that these headaches may be TMD related, as well as suggesting a possible role for peripheral and central sensitization in TMD patients. Subjects with painful temporomandibular disorders (TMD) showed significant trends for increased signs and symptoms of TMD associated with increased frequency of concurrent temple headaches*

Influence of Headache Frequency on Clinical Signs and Symptoms of TMD in Subjects with Temple Headache and TMD Pain

Anderson GC, John MT, et al.
Pain. 2010 Dec 31

The relationship of the frequency of temple headache to signs and symptoms of temporomandibular joint (TMJ) disorders (TMD) was investigated in a subset of a larger convenience sample of community TMD cases. The study sample included 86 painful TMD, nonheadache subjects; 309 painful TMD subjects with varied frequency of temple

Determinants of Treatment Outcome After use of the Mandibular Advancement Device in Patients with Obstructive Sleep Apnea

Lee CH, Kim JW, et al.
Arch Otolaryngol Head Neck Surg. 2010 Jul;136(7):677-81.

The purpose of this study was to determine the predictors affecting treatment outcome after application of the mandibular advancement device (MAD). This retrospective analysis took place at a tertiary care hospital and included a total of 76 patients (68 men and 8 women) who were treated with the MAD for obstructive sleep apnea

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Sleep Apnea...continued

(OSA) were included from September 2005 through August 2008. All the subjects underwent cephalometry, nocturnal polysomnography, and sleep videofluoroscopy (SVF) before and at least 3 months after receipt of a custom-made MAD. Sleep videofluoroscopy was performed before and after sleep induction and was analyzed during 3 states of awakeness, normoxygenation sleep, and desaturation sleep. Subjects were divided into success and nonsuccess groups depending on treatment outcome. Multiple variables from cephalometry and SVF including the length of the soft palate, retropalatal space, retrolingual space, and mouth opening angle were evaluated during sleep events with or without the MAD between success and nonsuccess group.

Results found that the soft palate was significantly longer in the nonsuccess group than in the success group. The retropalatal and retrolingual airway spaces and mouth opening angle were not different between 2 groups. Application of the MAD increased the retrolingual space and decreased the length of the soft palate and the mouth opening angle significantly in both success and nonsuccess groups. However, retropalatal space was widened only in the success group, which showed that retropalatal space may be important in determining treatment response of the MAD. *The authors concluded from the results of this study that the length of the soft palate showed a difference between success and nonsuccess groups, and widening of retropalatal space might be an important factor for successful outcome with MAD application.*

The Association between Neck Disability and Jaw Disability

Olivo SA, Fuentes J, et al.
J Oral Rehabil. 2010 Sep;37(9):670-9. Epub 2010 May 27

The association between cervical spine disorders (CSD) and temporomandibular disorders (TMD) has been extensively investigated. However, no studies investigating the relationship between the level of jaw disability and neck disability have been published. Therefore, the objective of this study was to determine whether there was a relationship between neck disability measured using the neck disability index (NDI) and jaw disability measured through the jaw function scale (JFS). A sample of 154 subjects who attended a TMD/Orofacial Pain clinic participated in this study. All subjects were asked to complete the NDI, the JFS, the jaw disability checklist (JDC), and the level of chronic disability of TMD (chronic pain grade disability questionnaire used in the RDC/TMD).

Appropriate statistical measures were used to analyze the relationship between neck disability and jaw disability.

Measures were used to determine the association between the level of chronic disability of TMD and neck disability. A strong relationship between neck disability and jaw disability was found ($r = 0.82$). A subject with a high level of TMD disability (grade IV) increased by about 19 points on the NDI when compared with a person without TMD disability. *These results have implications for clinical practice. If patients with TMD have neck disability in addition to jaw disability, treatment needs to focus on both areas because the improvement of one could have an influence on the other.*

Aural Symptoms in Patients with Temporomandibular Joint Disorders

Riga M, Xenellis J, et al.
Otol Neurotol. 2010 Dec;31(9):1359-64

The association of temporomandibular joint (TMJ) disorders with aural symptoms, such as tinnitus, otic fullness, and subjective decrease of hearing acuity, is a well-established clinical observation. Although several hypotheses have been made about the otic-conductive origin of these complaints, conventional 226-Hz tympanometry has failed to demonstrate any middle ear abnormalities. The purpose of this study was to evaluate patients with TMJ disorders with multiple frequency tympanometry (MFT). This prospective clinical study was conducted at an outpatient clinic and included a population of 40 patients with unilateral TMJ disorders diagnosed for longer than 1 month. After verifying that there were no abnormal otoscopic findings, 226-Hz tympanometry, conventional pure-tone audiometry, brainstem auditory evoked potentials, and MFT were performed.

Results found that with the exception of MFT, no abnormal audiologic findings were revealed. The ear ipsilateral to the lesion demonstrated significantly higher RF values in comparison to the contralateral ear. The difference in resonant frequency values was more obvious in patients aged 45 years or younger. The authors concluded that the results of this study imply an increase in the stiffness of the middle ear, which has not been detected by conventional tympanometry. *This represents the first concrete documentation of minor alterations in the conductive properties of the middle ear and seems to support the various hypotheses on the middle-ear origin of aural complaints in patients with TMJ disorders. Further studies are needed before a clear insight on the presumably multifactorial pathophysiology of these complaints can finally be reached.*