

Gnathology

Prevalence of temporo-mandibular disorders in patients with obstructive sleep apnea syndrome

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Aim: Obstructive sleep apnea (OSA) is a common chronic sleep disorder affecting from 9% to 38% of the general population. OSA is characterized by repeated pauses during breathing and has been proven to be life-threatening when untreated. Temporomandibular disorders (TMD) are the second most common musculoskeletal disorder and are characterized by pain in the facial region and temporomandibular joint. Since some studies have shown a significant correlation between reduction of sleep quality and pain perception, we conducted a research in order to evaluate the presence of TMD signs and symptoms according to the new Diagnostic Criteria for Temporomandibular Disorders (DC/TMD) in patients with a diagnose of OSA.

Methods: Patients with diagnose of OSA, obtained by somnographic registration, were recruited from the ENT department at "Agostino Gemelli" University. Before receiving any treatment suggestion, they were examined according to the DC/TMD axis I and axis II. The examination included some questionnaires regarding signs and symptoms of TMD and others analyzing biopsychosocial condition together with a clinical examination. In order to reduce bias, the same researcher was responsible for all the exams. Ethical approval was obtained before the study beginning.

Results: thirty-two patients with mild to severe OSA participated in the study and therefore were included in the analysis. 25 were males and 7 females with a

mean age of 49.8 years old. 40.6% of all patients were diagnosed with some kind of TMD. 31.3% presented an intra articular or degenerative joint disorder where clinical disc displacement with reduction was the most common diagnose. 37.5% presented with painful TMD of which myalgia was the most common diagnose. 85.7% of women presented painful-TMD. No correlation was found between Apnea/Hypopnea Index (AHI) and TMD pain.

Conclusion: The present study is the first one in scientific literature, evaluating the prevalence of TMD in obstructive sleep apnea patients according to the DC/TMD. The prevalence of TMD is very high among these patients with a significantly higher prevalence in females. Due to the growing success of the mandibular advancement devices, dentists are gaining more power in the treatment of OSA. It is now clear that, in order to provide a proper treatment, dentists treating OSA patients should be experienced and qualified both in sleep medicine and orofacial pain.

Dimensions of the mandibular condyle and the glenoid cavity in the different sagittal skeletal patterns in adolescents. A computed tomography study

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Aim: The characteristics of the temporomandibular



joint (TMJ) are modified as a consequence of different factors. The sagittal skeletal pattern has been related to the dimensions of the osseous components of the TMJ. Objective: The aim of this study was to evaluate the relationship between the dimension of the mandibular condyle and the glenoid cavity and the sagittal skeletal pattern in adolescents.

Methods: 40 adolescent patients, between 11 and 19 years old, 12 males and 28 females, were evaluated. They were divided into three groups according to the ANB angle: 15 Class I (ANB $0^\circ - 4^\circ$), 15 Class II ($> 4^\circ$) and 10 Class III ($< 0^\circ$). The width and length of the condyle and the width and depth of the glenoid cavity were measured using computed tomography images. By the t-Student test, the means of the measures of the right and left side were compared. Through the ANOVA test, the means of the measurements of the condyle and the glenoid cavity were analyzed according to the vertical skeletal pattern and the post-hoc Bonferroni test was used to identify the group correlations.

Results: No significant difference was found between the right and left side averages, so the mean between sides was used for the analysis. A correlation was obtained between the depth of the glenoid cavity and the sagittal skeletal pattern ($P = 0.009$), was deeper in Class III and less in Class II. The rest of the variables studied did not present a statistically significant correlation with the sagittal skeletal pattern.

Conclusions: The depth of the glenoid cavity is greater in Class III subjects and less deep in those Class II. The dimensions of the condyle and the width of the glenoid cavity did not show a statistically significant relationship with the sagittal skeletal pattern in the adolescents studied.

Characteristics of the bone components of the temporomandibular joint and its relationship with the vertical skeletal pattern in adolescents. A computed tomography study

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Aim: The temporomandibular joint (TMJ) is a joint formed by the mandibular condyle and the glenoid cavity of the temporal bone. Several factors affect the morphology of the TMJ components. A relationship between the characteristics of the bone components

of the temporomandibular joint and the craniofacial skeletal characteristics has been reported. Objective: The aim of the present study was to verify the relationship between the characteristics of the bone components of the TMJ and the vertical skeletal pattern in adolescent patients.

Method: A total of 45 adolescent patients (16.20 ± 1.91 years of age), 13 males and 32 females, were divided into 3 groups according to their vertical skeletal pattern: 15 normodivergent, 15 hyperdivergent and 15 hypodivergent. The TMJ was evaluated in computed tomography (CT) images, the anteroposterior and lateromedial dimensions of the condyle and the anteroposterior dimension and high of the glenoid cavity were measured. The t-Student test was used to compare the measurements of the right and left sides and between the genders, and the ANOVA test was used to evaluate the correlation between condylar and glenoid cavity measurements with the vertical skeletal pattern and the post-hoc Turkey's test was used to identify the correlation between groups.

Results: No statistical difference was found in the measurements of the condyle and glenoid cavity on the right and left sides, so a mean between both sides was used. A statistically significant relationship was observed between the medial-lateral dimension of the condyle and the skeletal pattern ($P = 0.000$), in the paired comparisons a statistical difference of this dimension was observed between hypodivergent and hyperdivergent. The rest of the variables studied did not present a statistically significant difference.

Conclusion: The lateromedial dimension of the mandibular condyle is greater in hypodivergent patients and lower hyperdivergent patients. The anteroposterior dimension of the condyle and the measurements of the glenoid cavity did not present a correlation with the vertical skeletal pattern in the adolescent.

Multidisciplinary approach with traditional and complementary therapies in patients with temporomandibular disorders and fibromyalgia: a randomized study

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Aim: Fibromyalgia (FM) is a chronic musculoskeletal pain syndrome characterized by widespread musculoskeletal pain and tenderness at specific anatomic sites (tender points. The association of FM