53.

Anterior Tooth Relationship in Cuspid Protected and Group Function Occlusion

Kovač Z, Uhac I, Kovačević D, Grzić R, Delić Z, Borčić J.
Department of Prosthodontics, School of Medicine University of Rijeka, Croatia

OBJECTIVE OF INVESTIGATION: The aim of the study was to determine anterior tooth relationship (overbite and overjet) according to the type of occlusion (canine guided, group function).

METHODS: A total of 111 test subjects (56 men and 55 women, mean 23.9 years of age) were examined, and it was determined that they have occlusional conception. The relationship of the front teeth in the position of maximum intercuspidation was evaluated by a portable meter.

RESULTS: By analysing the obtained results of vertical overjet and horizontal overbite of the front teeth, we concluded that there was significant statistic difference in the amount of the vertical overjet with regard to occlusional conception (t=6.669, p=0.00001). Average value of the vertical overjet in examinees with occlusion lead by the canine was 2.22+0.09 mm, while in examinees with group function it was 1.58+0.26 mm. No significant statistical difference was found by analysing vertical overjet with regard to gender. No significant statistical difference between the groups was found by comparing the results of horizontal overbite of frontal teeth with regard to occlusional concepcion and gender. Average value of horizontal overjet was 1.62+0.29 mm.

CONCLUSION: Subjects with canine guided occlusion have significantly and statistically bigger overjet of frontal teeth.

54.

Condylar Displacement in Patients with Compound TMJ Disc Displacement in the Frontal Plane on Tomograms

Kleinrok M[1], Litko M[1], Piórkowska B[1], Weglowska A[1], Kuziola A[1], Kostrzewa M.[2]
[1]Department of Prosthetic Dentistry, Subdepartment of Craniomandibular Disorders, Medical Academy, Lublin
[2]Department of Child Radiology, DSK, Medical Academy, Lublin, Poland

Condylar displacement on TMJ tomograms taken in the intercuspal position in the frontal plane is a phenomenon described in the literature. However, there is no research on the reason for these disturbances. Introducing MR imaging for TMJ investigation has created new possibilities to explain this phenomenon. 34 TMJ tomograms were taken in 17 patients with TMJ disc displacement in the frontal plane. In 17 (50%) TMJs lateral and in 17 (50%) TMJs medial disc displacement on the basis of MR imaging was diagnosed. The tomograms facililated diagnosis of lateral displacement of the condyles in 15 (44%) TMJs, medial displacement in 3 (9%) TMJs and in the remaining 16 (47%) TMJs superior central condylar displacement.

CONCLUSIONS:

1. The study indicates that there is a correlation between TMJ disc and condylar displacement in the intercuspal position in the frontal plane.
2. Further investigations on the presented problem are recommended.

Grant of the State Commitee for Scientific Research nr 6 PO5E 043 20.

55.

Evaluation of the Occlusal Conditions in Patients with and without Dysfunction of the Masticatory Apparatus

Pordes-Kotowska M, Szczerbaniewicz B, Split W.
Department of Neurology and Dysfunction of the Masticatory Apparatus, Medical University, Lodz, Poland

The aim of the study was to ascertain whether there is any correlation between occlusal abnormalities with dysfunction of the masticatory apparatus. (DMA) 137 young people between 16-19 years of age were examined, including 57 with DMA and 80 without DMA. The diagnosis was established with the agreement of the International Headache Society (IHS) criteria and directories of the American Academy of Orofacial Pain. (AAOP). The occlusal conditions were evaluated with the help of the computer aided system T-Scan II (Tekscan, Inc, Boston, USA). According to this method occlusal point contacts (premature contacts) were evaluated at the beginning of the occlusion (centric relation-CR). At this time percentage distribution of the relative net force between teeth were determined. Teeth contacts with the maximum rel-

ative force along the dental arch were also recorded. In this way premature traumatic contacts were determined. There were also evaluated areas of support for the particular teeth or groups of the teeth in the maximum intercuspal position (MIP). The center of occlusal forces (COF) in MIP were then recorded. Finally percentage distribution of the values of the resultant occlusal force moments, acting on both sides of the dental arch, were evaluated. As normal differences in these values less than 9 % between bothsides of the dental arch were accepted.

The other groups were defined on the basis of the differences in the values of both sides of the dental arch in the range: 10-19% as a satisfactory group, 20-29% as a moderate group, 30-39% as a high degree group and finally more than 40% as a very high degree group.

The obtained results were submitted for statistical analysis. No correlations were found between occlusal abnormalities and DMA.

56.

Overbite as an Etiological Factor of TMJ Disorders. Clinical and Electromyographic Exploration

Sánchez T, Ardizone I, Echevarría B, Aneiros F.
Department of Prosthodontics, Faculty of Dentistry, Complutense University, Madrid, Spain

INTRODUCTION: The intermaxillar relationship in overbite is one of the etiological factors of TMJ disorders (Pulinger, Sellingman and Gorbeirn, 1993).

Nevertheless, it does not always cause malfunction. Sometimes the compensating mechanisms of the individual prevent the occurrence of symptoms and it only appears when parafunctional habit overloads the stomatognathic apparatus.

OBJECTIVE: The aim of this study was to escamine neuromuscular behaviour in patients with such occlusal alteration.

MATERIAL AND METHODS: We present two cases with overbite: one bruxist with malfunction and one nonbruxist without symptoms of malfunction.

An occlusal analysis and clinical, kinesiographic and electromyographic exploration was performed in both patients. For the analysis we used a Dentatus A.R.L. articulator, Myotronics electromyograph and K6 kinesiograph.

RESULTS AND CONCLUSIONS: The results of the exploration were compared with those of a healthy individual with normal occlusion, used as a reference.

Lateral movements were restricted and with a mainly vertical component.

In both cases there was an increase in electromyographic activity during normal mastication and swallowing, and in maximum force bite there was the same response between anterior temporalis and masseter muscles.

The study demonstrated that the mandibular movements in both patients were very similar, and determined by the occlusal factor, in comparison to normal individuals.

Nevertheless, the electromyographic exploration shows a different neuromuscular response by the patient adapted to this occlusal problem and the dysfunctional patient.

57.

Influence of Occlusal Interference on the Prevalence of Temporomandibular Disorders

Ćelić R, Pandurić J, Badel T, Kraljević S, Dulčić N.
Department of Prosthodontics, School of Dental Medicine University of Zagreb, Croatia

The significance of occlusal interference in the etiology of temporomandibular disorders has been questioned in numerous recent articles. The aim of this study was to determine the prevalence of the clinical signs and symptoms of temporomandibular disorders in a young male nonpatient population and to investigate a possible association between the signs and symptoms of temporomandibular disorders and occlusal interference. A questionnaire including data from history and clinical functional examination was used in the study. All subjects (a total of 230) were male (army recruits), of 19 to 28 years of age (mean 21.3). Temporomandibular joint clicking was reported in 91 subjects, temporomandibular joint pain on palpation and functional loading in 78 subjects, masticatory muscle pain on palpation and functional loading in 58 subjects, tension type headache in 30 subjects, and mandibular deviation on opening and closing movements greater than 2 mm in 43 subjects. The prevalence of occlusal interference in percentage in 230 young adults, 65% had no occlusal interference during examination of the functional state of occlusion, while 14% subjects had centric slide between centric relation and maximum intercuspation, 5% subjects had working side interference and 16% subjects had non-working side interference during lateral and protrusive mandibular movements. Clinical signs and symptoms were correlated with occlusal interference, although their correlation cannot be considered unique or dominant in definition of a temporomandibular disorder population.