

ASSESSMENT OF THE MORPHOLOGY OF THE MANDIBLE MUSCLES IN CHILDREN AND TEENAGERS WITH BRUXISM

SUMMARY

Introduction: The growing problem of the stomatognathic system disorders, resulting from the compilation of a number of internal and external factors, creates new challenges in many areas of life. Disorders resulting from bruxism, as a phenomenon common also among children and adolescents, seem not rooted in the awareness of parents and people affected by this disease.

Aim of the study: The aim of this study was to assess the thickness and elasticity of the masseter muscles in children and adolescents with bruxism and the impact of the above parameters on the occurrence of bruxism in children and adolescents. In this study, it was decided to define parameters that will ensure effective diagnosis of not only the occurrence of bruxism, but also its type (centric, eccentric) and severity depending on various factors.

Material and methods: Studies with a control group included a group of 39 people aged 9-16 years. The qualified people were divided into two groups that were similar in terms of size: experimental and control. Children and adolescents of both sexes, qualified for the examination on the basis of a dental examination, participated in the research. The next stage of the research was an interview and clinical examination, analysis of medical data, diagnostics using BruxChecker foil, palpation examination, examination of cortisol level in saliva and transverse wave elastography.

Results: The obtained results indicate that the thickness of the right temporal muscle in patients with bruxism was greater than the thickness of this muscle in patients without bruxism by an average of 14.1%, while on the left side this muscle was thicker by 18.6%. Regardless of the study position, no statistically significant difference in the thickness of the masseter muscle was observed in the group of patients with and without bruxism. In the comparison of patients with centric bruxism, the temporal muscle on the left side, when examined in the supine position, showed a thickness greater by less than 25% of the

thickness of this muscle than in patients with eccentric bruxism. In other cases, regardless of the position and the examined side, no statistically significant differences were observed. By comparing the results of palpation and transverse wave elastography, the existence of a moderate, positive relationship between the results of both studies was noted five times. In two cases, moderate, negative correlations were observed. In the study of the impact of the stress level, there were no differences between people with bruxism and people without bruxism.

Conclusions: Shear wave elastography examination confirmed the differentiation between the flexibility and thickness of the masseter muscles in patients with and without bruxism. However, in this study, no statistically significant differences were found in relation to the palpation test or the test of the stress level.