

EVALUATION OF SOME INDICATORS OF ORAL FLUID IN CHILDREN WITH TEMPOROMANDIBULAR JOINT PATHOLOGY

Saidov, A. A.

Bukhara State Medical Institute

S. A. Gaffarov

Tashkent Institute of Advanced Medical Training.

Abstract:

The temporomandibular joint is a receptor organ that is mobile in three directions, connected to the proprioceptors of the periodontal and masticatory muscles and transmits information to the Central nervous system about the position of the lower jaw for controlling and regulating masticatory movements (Alabin I. V., Mitrofanenko V. P., 2002).

Keywords: laboratory research, anomalies, lipoperoxidation, dysfunction.

Introduction

Persin L. S., Sharov M. N. (2013) believe that the main causes of disorders of the temporomandibular joint are: anomalies of occlusion of the dentition-65-70%; dysfunction of the maxillofacial muscles – 15-20%; psychoneurological disorders-10-15%, and only 5% of patients have dysfunction of the temporomandibular joint associated with the joint disease itself.

It was found that children with TMJ pathology experience depletion of the reserve capabilities of antioxidant and antimicrobial protection against the background of increased lipoperoxidation and contamination of the mouth with pathogenic and opportunistic microflora, as well as a decrease in the pH of the oral fluid and a decrease in the level of cellular metabolism (Perova E. G., 2010, Carlos F. L., 2010). Based on the above, the purpose of this study was to study the biochemical parameters of oral fluid in children with TMJ disease.

Using laboratory research methods, we studied the biochemical parameters that characterize the state of homeostasis and the level of non-specific resistance in the oral cavity in children with TMJ disease.

Main part

An important mechanism of homeostasis in the oral cavity is the balance in the Pro-oxidant-antioxidant system. In the course of work, the activity of catalase, MDA, elastase, lysozyme and urease was studied, which are presented in table 1.

These tables show that the activity of catalase in children with TMJ disease in the primary

clinical and laboratory study was on average 2 times lower than in children who were practically healthy. This indicates the depletion of the reserve capacity of the antioxidant system in children with TMJ disease. Taking into account that in the Genesis of TMJ pathology in children, great importance is attached to processes at the level of cellular factors, and an important mechanism that leads to the destabilization of cell membranes is the process of lipid peroxidation (POL), the level of malondialdehyde (MDA) in the oral fluid was studied.

Table 1. Dynamics of changes in the biochemical parameters of oral fluid in healthy children and with TMJ disease (MCAT/l, MC-cat/l and ed / ml., MC-cat/l)

Indicators	Children with TMJ disorders n=48	Healthy children (control) n=15
The activity of catalase	0,122±0,021*	0,324±0,024
Malonic dialdehyde	0,305±0,032*	0,129±0,016
The activity of elastase	2,97±0,16*	1,72±0,14
Lysozyme activity	0,025±0,004*	0,093±0,008
Urease activity	0,417±0,034*	0,096±0,011

Note: * - confidence of differences $P < 0.05$ when compared with the control

The obtained research results showed that in children with TMJ pathology, the MDA content was significantly higher than in practically healthy children. This indicated a local "intensification of lipid peroxidation processes in children with TMJ disease. The results of the study of the degree of inflammatory processes in the oral cavity, the intensity of which characterizes the activity of the leukocyte proteolytic enzyme elastase in the oral fluid, are presented in table 1. During the biochemical analysis of oral fluid in children with TMJ disease, an increase in the activity of elastase in the oral fluid was noted. The table shows that in children with TMJ disease, the activity of lysozyme in the oral fluid was 2.4-3 times less than in children without somatic diseases.

Thus, a decrease in catalase activity and a high content of MDA in the oral fluid in children with TMJ pathology indicated a violation of the reserve capabilities of the antioxidant system and the intensification of lipid peroxidation processes in the oral cavity. In children with TMJ pathology, there was a significant decrease in the content of lysozyme in the oral fluid and a simultaneous increase in urease activity relative to these practically healthy children.

Conclusion

Thus, in children with TMJ disorders disturbance of the balance of prooxidant-antioxidant system; the decline of catalase activity and increase the level of reducing antimicrobial protection and an increase in the degree of contamination of pathogenic and conditionally pathogenic microflora.

References

1. Алабин, И.В., Митрофаненко, В.П. Анатомия, физиология и биомеханика зубочелюстной системы : монография [Текст] / И.В. Алабин, В.П. Митрофаненко. – М., 2002. – 241с.
2. Влияние экологических факторов на распространенность зубочелюстных аномалий и их корреляция с заболеваниями тканей пародонта у школьников г. Днепропетровска /О.В. Деньга [и др.] //ВКн. стоматол. 2004. № 3. С. 72-75.
3. Перова Е.Г. Характер зубочелюстных аномалий и деформаций у детей с различным состоянием опорно-двигательного аппарата // Ин-т стоматол. 2010. Т. 1, № 46. С.74-75.
4. Dental management of patients with endocrine disorders / F.L.Carlos [et al.] // J. Clin. Exp. Dent. 2010. Vol. 2, № (4). P. 196-203.
5. Olimov S.Sh., Saidov A.A, Gaffarov S.A., Akmadaliev N.N Assessment of hepatobiliary system with dentoalveolar anomalies in school children // International journal of Research (IJR), Volume-06, Issue-03 march 2019. 576-583.
6. Saidov A.A. Assessment of some indicators of oral liquid in children with the pathology of the temior-lower under jaw joint // Asian Journal of Multidimensional Research, Volume-09, Issue-01 january 2020. 59-63.