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**FIXATION OF COMPLETE REMOVABLE DENTURES USING ADHESIVE
CREAM AND ELECTROMYOGRAPHY**

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Annotation. In this article was to examine the electromyographic examination of the masticatory muscles in patients with complete removable prosthesis who use adhesive cream «Stomafix» produced by JSC «STOMA» at different stages of adaptation to complete removable dentures.

Keywords: complete removable prosthesis, adhesive cream, masticatory muscles, electromyography.

For economically developed countries is characterized by a general increase in the number of elderly people with toothless jaws. In Ukraine, there is also a steady increase in the population of older citizens with toothless jaws [1, p. 266]. Orthopedic treatment of adentia in elderly patients is associated with certain factors, taking into account the patient's adaptation to complete removable dentures [2, p. 15]. The amplitude of the masticatory cycle, the efficiency and strength of the reduction of the masticatory muscles in these patients decreases compared with patients with teeth. One of the physical factors that significantly affects the fixation of removable dentures and the adaptation of patients to them is adhesion [3, p. 215]. The use of adhesive materials to improve the fixation of removable prostheses increases the functional value of not only newly created but also old prostheses, reduces the ingress of food under the prosthesis, which subsequently qualitatively affects the adaptation and organization of the masticatory muscles [4, p. 115].

Electromyography is a type of diagnosis in which oscillations of biopotentials arising in muscles at the moment of its excitation are fixed. EMG studies of the masticatory and facial muscles allow to determine changes in the functional state of the muscles in the phase of masticatory movement, as well as in facial expressions. EMG studies allow to diagnose neuromuscular imbalance, to detect displacement of the occlusion center at the stages of prosthetics [5, p. 2411].

The aim of our study was to examine the electromyographic examination of the masticatory muscles in patients with complete adentia who use adhesive cream «Stomafix» produced by JSC «STOMA» at different stages of adaptation to complete removable dentures.

Materials and methods. The first (control) group is patients who were treated by the traditional method of making complete removable dentures, without the use of adhesive fixation material when adapting to full removable dentures. The second (experimental) group of patients who at the stages of adaptation used adhesive cream for fixing prostheses «Stomafix». Electromyography was recorded using a computer neurophysiological diagnostic system «M-TEST». Surface, leather, and self-adhesive current collectors were used as discharge electrodes. The recording electrode was

applied to the motor points of the muscles; the free electrodes were located closer to the junction of the nerve muscles. The guide electrode was applied to the patient's wrist. Low frequency filtering was set at 3 Hz, for high frequencies - 10,000 Hz. Registration was performed simultaneously on 2 channels, with the right and left masticatory muscle.

The results of the study. The maximum amplitude on the 1st day of prosthesis application, according to the EMG study, during chewing 800 mg of almonds in the first and second groups of patients did not differ significantly: 1 group - $501.05 \pm 104.02 \mu\text{V}$, and group 2 - $517.80 \pm 87.47 \mu\text{V}$. The second analysis was performed on the 7th day of prosthesis use, after a slight correction of the base, due to patient complaints. Electromyographic parameters differ sharply. In the control group, the maximum amplitude decreased to $431, 50 \pm 90.95 \mu\text{V}$, which means that the masticatory muscles are not ready to accept the contact of the prosthetic base with the prosthetic bed of the patient. In patients (group 2) who used the adhesive cream «Stomafix», on the day of application and on the 7th day of operation of the prosthesis, for maximum adaptation, the maximum amplitude was slightly different ($527.80 \pm 87.47 - 532.80 \pm 87.49$ microvolts), which means the successful adaptation of the masticatory muscles to the manufactured prostheses.

The results of the study after a month showed that the maximum amplitude increases in two groups of patients, which indicates the adaptation of patients' muscles. For the first group it is 505.50 ± 94.67 . The parameters of the second group are $540.40 \pm 88.45 \mu\text{V}$. The increase in the parameters of electromyographic studies indicates the rapid and high-quality adaptation of patients to complete removable dentures. The highest value of the maximum amplitude of the masticatory muscles when chewing 800 mg of almonds was observed after monthly use of prostheses by patients of the 2nd group ($540.40 \pm 88.45 \mu\text{V}$). These data indicate the complete adaptation of the patient to removable dentures.

Conclusions. In the first days of use of full removable dentures with the use of adhesive cream, there were already characteristic indicators of the amplitude of the masticatory muscles, namely an increase in the 2nd group of subjects (540.40 ± 88.45

μV). The maximum amplitude of the masticatory muscles when chewing 800 mg of almonds by patients who used the adhesive cream «Stomafix» for a month increased, which indicates a rapid adaptation to the manufactured prosthesis on the first day of use. It should also be noted that the traumatic factor in the use of removable dentures decreased in the 2nd group of patients who used adhesive cream, which explains the early adaptation of patients to complete removable dentures.

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