palatal vault mid-third. The data obtained concerning the inclination will play a decisive role when developing individual cast models to design the palatal surface of a fixed dental prosthesis. The technique in question allows employing fixed dentures to obtain optimal and reliable parameters for restoring the upper front teeth in case part or all of them are missing. The obtained data are valid for an orthognathic occlusion with no transversal or sagittal issues.

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THE FUNCTIONAL STATUS OF MASTICATORY MUSCLES AT DISPLACED MANDIBLE BASED ON ELECTROMYOGRAPHIC DATA

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Introduction. The functional status of the temporomandibular joint and masticatory muscles depends on the dentition integrity, on the type of dentures used to compensate for the dentition issues, on the type and nature of the respective occlusion disorders, and on the degree of complications, the most severe of them being a displaced mandible [1, 2, 5, 8, 10]. One of the reliable methods for assessing masticatory muscles functional disorders is electromyographic examination [3, 4, 6, 7, 9].

Aim of study — to investigate electromyographic data obtained through studying mastica-tory muscles in adult patients featuring dentition issues complicated with a displaced mandible.

Materials and methods. We carried out electromyographic examination of the masticatory muscles in 60 patients (aged 30 to 55) suffering from dentition issues complicated with posterior mandible dislocation. The patients were divided into two groups. Group 1 included 30 patients who had had the pathology for more than a year, while the other group includ-

ed patients whose history of the disorder was under one year. The control group included 19 persons with orthognathic occlusion with neither dentition defects nor dentures. The masticatory muscles biopotential was evaluated through the surface electromyography method on a Neuromian model 4 01 device. The electromyographic study of the masticatory, temporal and suprahyoid muscles was performed while the mandible remained in the physiological rest position, as well as in the state of conventional occlusion of the teeth.

Results. Based on the electromyographic data, the control group patients' masticatory muscles featured coordinated work with no sign of spontaneous activity at rest. At the conventional occlusion, the biopotentials amplitude indices for the masticatory muscles were 601.36 ± 11.21 μV; for the temporal muscles — 419.76 ± 4.09 μV, and for suprahyoid — 406.48 ± 9.71 μV. The electromyographic data for the main group showed a decrease in the biopotentials amplitude for the masticatory and temporal muscles down to 349.48 ± 7.85 μV ($p < 0.01$) and 289.23 ± 3.11 μV ($p < 0.001$), as well as an increase of these indicators for suprahyoid muscles up to 498.89 ± 5.71 ($p < 0.05$). The patients of Group 2 had their masticatory and temporal muscles amplitudes decreased to 543.63 ± 4.71 μV ($p < 0.01$) and 379.12 ± 9.11 μV ($p < 0.05$), whereas an increase was observed for the suprahyoid muscles (up to 448.96 ± 7.65 μV; $p < 0.05$). When in the state of relative physiological rest, the mandible electromyography showed some spontaneous activity in the masticatory muscles, which was up to 110 μV, while chewing resulted in a disturbed rhyth-mic phase change.

Conclusions. Given the above, the electromyographic examination of adult patients with dentition issues complicated with posterior mandible dislocation revealed a decreasing biopotentials amplitude for the masticatory and temporal muscles; the biopotentials amplitude for the suprahyoid muscles featured an increase at compressed dentition, while a longer history of the pathology and lack of due treatment resulted in greater alterations in the masticatory muscles.

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