ELECTRICAL STIMULATION IN REHABILITATION OF THE PATIENTS WITH FACIAL NERVE PARALYSIS

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Background Facial nerve paralysis is treated by speech therapist- face mimic, lip, cheeks muscles training and electrical stimulation. Electrical stimulation procedures are done during individual session, using all methods at the same time for the correction of facial nerve paralysis. The usage of electrical stimulation by VocaStim device is method in logopedic therapy and little is known about its effect for the patients with facial nerve paralysis.

Objective The purpose of this study was to evaluate the effectiveness of electrical stimulation for patients with facial nerve paralysis.

Methods The treatment group consists of 50 patients with facial nerve paralysis. The functioning of mimic, lip, cheeks muscles was evaluated before starting the logopedic training and after the treatment. During the treatment the upper and lower mimic muscles were evaluated of 6-point grading system. All the methods of correct face mimic, lip, cheeks muscles training were used: face mimic, lip, cheeks muscles articulation exercise, lips sound pronunciation adjustment, face symmetry reconstruction, adjustment ready. 25 patients of the treatment group had electrical stimulation procedures using VocaSTIM device. At admission the patients were divided into 2 groups, where there were no differences in their level of violation and the average age. Stimulation is electric (constant or pulse electric current), acoustic (playback of recorded sounds) and optical (the patient is provided with postcard-sized sheets with sounds).

Results The study was conducted to evaluate the benefits of electrical stimulation for patients with facial nerve paralysis. Data gathering period was from 2014 to 2017, average age of the patients – 53,52 years. After the logopedic treatment facial nerve functions were improved in both groups. However, the facial nerve functions of the group treated by electrical stimulation were better than the other group that was treated by facial nerve training alone.

Conclusions Electrical stimulation is beneficial to the recovery of facial nerve paralysis.

	Grade I	Grade II	Grade III	Grade IV	Grade V	Grade VI
	Normal	Slight Dysfunction	Moderate Dysfunction	Moderate Severe Dysfunction	Severe Dysfunction	Total Paralysis
<u>Gross:</u>	Normal facial function in all areas	slight weakness noticeable on close inspection; may have very slight synkinesis	obvious but not disfiguring difference between two sides; noticeable but not severe synkinesis, contracture, and/or hemi-facial spasm	obvious weakness and/or disfiguring asymmetry	only barely perceptible motion	No movement
<u>At rest:</u>		normal symmetry and tone	normal symmetry and tone	normal symmetry and tone	asymmetry	
<u>Motion</u>		forehead - moderate to good function; eye - complete closure with minimum effort; mouth - slight asymmetry	forehead - slight to moderate movement; eye - complete closure with effort; mouth - slightly weak with maximum effort	forehead - none; eye - incomplete closure; mouth - asymmetric with maximum effort	forehead - none; eye - incomplete closure; mouth - slight movement	