

Facial Reanimation with Labbe Myoplasty Followed by Complex Rehabilitation

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Abstract:

Introduction: the tumor's presence in the parotid salivary gland can lead to the development of facial paralysis in 1.67% of cases, and parotidectomy for neoplasms of this localization is complicated by iatrogenic damage to the facial nerve in 6-29.6%. Neurological insufficiency of the facial nerve leads to poor health state, both physical and mental. The facial resuscitation which includes a complex of therapeutic and surgical, together with rehabilitation measures, reduce these complications and improve the general condition of the patient. Lengthening temporalis myoplasty according to Labbé is recommended for use in facial nerve paralysis of various etiologies, including posttraumatic (iatrogenic) paralysis. This article describes the first case of facial reanimation by Labbe temporal lengthening myoplasty performed in the department of head and neck tumors of Voronezh Regional Clinical Oncological Dispensary with subsequent complex rehabilitation.

Case: patient Ch., 52 years old (WAS born. in 1972), was diagnosed with: Cancer of the right parotid salivary gland, stage II T2N0M0, after combined treatment. Histologic diagnosis: adenocystic carcinoma. In 2021, the patient underwent combined treatment, the surgical component of which included parotidectomy with fascial-futlar excision of the neck fiber. The paralysis of the facial muscles appeared after the operation. After two years, the patient turned to the specialists of the head and neck tumor department of VRCOD with complaints of lachrimation from the right eye, its dryness and salivation on the right side. It was decided to perform myoplasty by lengthening the temporal muscle. After 3 months of complex rehabilitation, patient C. has complete eyelid closure on the affected side of the face, almost complete symmetry of the corners of the mouth, absence of lachrimation, salivation and "sail symptom" on the right side. She has already mastered the temporomandibular smile and has begun to learn the voluntary temporal smile. Rehabilitation continues as planned.

Conclusively: the first precedent of Labbe myoplasty application in the department of head and neck tumors of Voronezh Regional Clinical Oncologic Dispensary with subsequent complex rehabilitation can be considered successful. The further use of this technique will be advisable with the possibility of gradual introduction into practice more methods of surgical facial resuscitation and improvement of the developed rehabilitation tactics.

Keywords: clinical case, oncology, facial resuscitation, complex rehabilitation

1. Introduction

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The incidence rate of major salivary gland cancer remains stable with no downward trend, and the proportion of this group of pathologies among all malignant tumors of the head and neck ranges from 3 to 6% [1-4]. The tumor most often develops in the parotid salivary gland (in 90%) [2]. That one of the key clinical manifestations of this group of neoplasms in the development of locally spreading process is the lesion of n. facialis [1,5]. The tumor's presence in the parotid salivary gland can lead to facial paralysis in 1.67% of cases [6], and parotidectomy for cancer of this localization is complicated by iatrogenic damage to the facial nerve in 6-29.6% [7,8].

Neurological insufficiency of the facial nerve leads to poor health state, both physical and mental [6,9,10].

The facial resuscitation which includes a complex of therapeutic and surgical, together with rehabilitation measures, reduce these complications and improve the general condition of the patient. The surgical group of techniques includes temporal lengthening myoplasty according to the Labbe method, recommended for use in facial nerve paralysis of various etiologies, including posttraumatic (iatrogenic) [11-14].

This article describes the first case of facial resuscitation by Labbe temporal lengthening myoplasty performed in the department of head and neck tumors of the Voronezh Regional Clinical Oncological Dispensary (VRCOD) with subsequent complex rehabilitation.

2. Presentation of a clinical case

Patient Ch., 52 years old (WAS born. in 1972), was diagnosed with: Cancer of the right parotid salivary gland, stage II T2N0M0, after combined treatment. Histologic diagnosis: adenocystic carcinoma. In 2021, the patient underwent combined treatment, the surgical component of which included parotidectomy with fascial-futlar excision of the neck fiber. The paralysis of the facial muscles appeared after the operation.

After two years, the patient came to the specialists of the Head and Neck Tumor Department of VRCOD with complaints of lacrimation from the right eye, its dryness and salivation on the right side. At the initial examination in the hospital: on the affected side of the face, smoothing of skin folds, swelling of the cheek ("sail symptom") when exhaling and talking, lagophthalmos. No other features were detected during physical examination.

Taking into account the fact that the absence of functional load on mimic muscles for 2 or more years leads to the complete loss of their ability to contract due to fiber atrophy and its replacement by connective tissue [15], we decided to perform myoplasty by lengthening the temporalis muscle. The existing lagophthalmos was treated with blevarorrhaphy aimed at achieving permanent narrowing of the eye slit on the side affected by paralysis. The early postoperative period proceeded without complications (except posttraumatic edema).

The rehabilitation process was divided into two periods: early (3-4 weeks after surgery) and late (1 month after surgery). The first period is characterized by the most gentle attitude to the tissues of the postoperative area. Excluded significant loads on mimic and masticatory muscles, methods of physiotherapeutic influence are not used. Also, taking into account the traumatic nature of the operation and the presence of a pronounced postoperative edema on the face, already in the early postoperative period (2 times a week and as needed) with the patient began to work staff psychologist VRCOD to provide professional psychological support and motivation for further rehabilitation. The work with the psychologist continued throughout the entire period of hospitalization.



The second period includes a number of measures aimed at compensating for the previously lost functions. Physiotherapeutic treatment is used, but an important feature of working with cancer patients is that the impact should not be applied to the area where the tumor focus was previously located, so as not to provoke the progression of the disease. The following methods are used: acupuncture (3 months) - once a week; therapeutic facial massage (self-massage) (the whole rehabilitation period) - 5-7 minutes twice a day; therapeutic gymnastics (complex of mimicry exercises) (the whole rehabilitation period) - 15 minutes 5 times a day independently, as well as once a week visit to a speech therapist. Much attention is paid to the development of the smile, the author of described methodology emphasized 3 stages [14]: 1st - temporomandibular smile (clenching teeth to smile), 2nd - voluntary temporal smile (thinking about the contraction of temporal muscle, not clenching teeth when smiling), 3rd - spontaneous smile (facial expression changes on demand, in imitation or depending on the situation). In addition to sessions with a physiotherapist and speech therapist, the patient continues to work with a psychologist (1-2 times a month and as needed).

After 3 months of comprehensive rehabilitation, patient Ch. has complete eyelid closure on the affected side of the face, almost complete symmetry of the corners of the mouth, no lacrimation, no salivation and no "sail symptom" on the right side. She has already mastered the temporomandibular smile and has begun to learn the voluntary temporal smile. Rehabilitation continues as planned (Fig. 1).



Figure 1. The result of treatment and rehabilitation (before surgery (a) and 93rd day after surgery (b))

3. Conclusions

The clinical case clearly demonstrates the need to introduce such reconstructive manipulations into the list of services of medical institutions working in the field of head and neck tumors. Their application will maximally compensate for the neurological deficit arising as a consequence of the underlying disease itself or as a complication of surgical removal of the neoplasm. Therefore, the first precedent of Labbe myoplasty application in the department of head and neck tumors of Voronezh Regional Clinical Oncologic Dispensary with subsequent complex rehabilitation can be considered successful. The further use of this technique will be advisable with the possibility of gradual introduction into practice more methods of surgical facial resuscitation and improvement of the developed rehabilitation tactics.



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