



## A DIFFERENTIATED APPROACH TO THE CHOICE OF RECONSTRUCTIVE PLASTIC SURGERY FOR MALIGNANT TUMORS OF THE EYELID

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### Summary

According to the World Health Organization (WHO), in 2020 one of the most common types of cancer in terms of new cases was skin cancer (1.20 million cases). Malignant neoplasms of the skin of the eyelids are one of the most common tumors, and therefore represent an important social problem. [R.F. Eleftheria, 2018]. Radical surgical removal is the "gold standard" for the treatment of malignant neoplasms of the eyelids. The problem of developing new approaches to the reconstruction of a postoperative eyelid defect with an assessment of the immediate and long-term results of surgical treatment remains relevant. The purpose of this article is to analyze, summarize and draw conclusions from the information provided by the authors.

**Keywords:** malignant tumors of the eyelids, treatment, reconstructive plastic surgery, differentiation.

## ДИФФЕРЕНЦИРОВАННЫЙ ПОДХОД К ВЫБОРУ РЕКОНСТРУКТИВНО-ПЛАСТИЧЕСКИХ ОПЕРАЦИЙ ПРИ ЗЛОКАЧЕСТВЕННЫХ ОПУХОЛЯХ ВЕК

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### Резюме

По данным Всемирной организации здравоохранения (ВОЗ), в 2020 году одним из наиболее распространенных видами рака, с точки зрения числа новых случаев, был рак кожи (1,20 миллиона случаев). Злокачественные новообразования кожи век являются одними из самых распространенных опухолей, в связи с чем представляют важную социальную проблему. [Р.Ф.Элефтерия, 2018]. Радикальное хирургическое удаление является «золотым стандартом» лечения злокачественных новообразований век.





Остается актуальной проблема разработки новых подходов к реконструкции послеоперационного дефекта век с оценкой ближайших и отдаленных результатов хирургического лечения. Цель данной статьи - проанализировать, обобщить и сделать выводы из предоставленной авторами информации.

**Ключевые слова:** злокачественные опухоли век, лечение, реконструктивно-пластические операции, дифференцировка.

## **KO'Z QOVOG'INING XAVFLI O'SMALARINI DAVOLASHDA REKONSTRUKTIV- PLASTIK JARROHLIGINI TANLASHGA DIFFERENTIAL YONDOSHUV**

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### **Annotatsiya**

Jahon sog'liqni saqlash tashkiloti (JSST) ma'lumotlariga ko'ra, 2020 yilda yangi holatlar bo'yicha saratonning eng keng tarqalgan turlaridan biri teri saratonidir (1,20 million holat). Ko'z qovoqlari terisining xavfli o'smalari eng keng tarqalgan o'smalardan biri bo'lib, bugungi kunda muhim ijtimoiy muammodir. [R.F. Eleftheria, 2018]. Radikal jarrohlik yo'li bilan olib tashlash usuli ko'z qovoqlarining xavfli o'smalarini davolashdagi "oltin standart" dir. Operatsiyadan keyingi ko'z qovog'i nuqsonini jarrohlik davolashning bevosita va uzoq muddatli natijalarini baholash bilan rekonstruksiya qilishning yangi yondashuvlarini ishlab chiqish muammosi dolzarbligicha qolmoqda. Ushbu maqolaning maqsadi mualliflar tomonidan taqdim etilgan ma'lumotlarni tahlil qilish, umumlashtirish va xulosalar chiqarishdir.

**Kalit so'zlar:** ko'z qovoqlarining xavfli o'smalari, davolash, rekonstruktiv plastik jarrohlik, differentsiatsiya.

### **Relevance**

Restoration of the anatomical integrity and functional activity of the eyelids with their cicatricial defects is a serious medical and social problem in reconstructive blepharoplasty. According to modern concepts, extensive cicatricial defects of the eyelids, especially penetrating ones, are defined in clinical ophthalmology as the most difficult and unfavorable in the prognosis of their elimination. At the same time, modern surgical correction of cicatricial defects of the eyelids is necessary not only for aesthetic and psychological purposes, but also to preserve visual functions and the eye





as a whole [Nuraeva A.B., 2017]. In the structure of malignant tumors of the eyelids, basal cell carcinoma (BCC) prevails, accounting for 80-90% of them. Squamous cell carcinoma (SCC) develops in 4-10%, glandular cancer, mainly sebaceous glands - in 5%, and melanoma - in 1% of cases [A.Iljin, 2016].

Malignant tumors of the adnexa of the eye (eyelids, conjunctiva, cornea, lacrimal ducts) occupy the first place in terms of frequency of occurrence. They make up about 75% of all malignant neoplasms of the organ of vision, the maximum peak of tumor detection occurs in patients older than 60 years. The skin of the eyelids is more often affected, less often the conjunctiva. In the structure of malignant tumors of the skin of the eyelids, basal cell carcinoma prevails (94.7%), squamous and metatypical cancer (4%), meibomian gland adenocarcinoma (0.7%) and skin melanoma (0.6%). According to different authors, the frequency of malignant lymphomas of the adnexal apparatus of the eye is 4% of all extranodal lymphomas. Conjunctival lymphomas account for about a third of all malignant lymphomas of the organ of vision. Primary multiple lesion of malignant tumors of the adnexal apparatus of the eye

occurs in 6% of patients. Despite the availability of diagnostics of tumors of the skin of the eyelids and conjunctiva ad oculus, the frequency of treatment in advanced stages of the disease reaches 12-15%, which is associated not only with the late treatment of the patient, but also with late correct diagnosis [V.V. Neroev, 2017]. Among the tumors of the skin of the eyelids, the edges of the eyelids, epithelial tumors predominate: papillomas, senile warts, skin horn, keratoacanthoma, trichoepithelioma, Moll's gland adenoma, meibomian gland adenoma, etc. Some eyelid tumors are capable of malignant degeneration, for example, if untreated, senile keratosis becomes malignant in 20% of cases, nevi - up to 5%, papillomas - in 1% of cases, there are cases of degeneration of senile warts, Bowen's epithelioma, pigment xeroderma [A.N. Steblyuk et al., 2019].

Currently, biomicroscopy of the periocular region, dermatoscopy, cytological examination, biopsy, etc. are used, and the autofluorescence technique is being actively developed, which makes it possible to detect latent tumor growth at the preoperative stage, which is especially important in infiltrative, ulcerative and superficial forms of BCC of the eyelids to clarify the boundaries of the tumor. for the purpose of its radical excision [Avetisov S.E. et al., 2008; Likhvantseva V.G. et al., 2007; Osipova E.A., 2009]. Along with the diagnostic value of studying the morphology of the biopsy specimen, intraoperative or urgent examination of the edges of the removed tumor makes it possible to assess the radical nature of the surgical intervention and build the tactics of eyelid reconstruction [Loo E.V., 2014].





To date, a large number of methods for tissue repair in the removal zone have been proposed, but most of them have certain disadvantages. The indications and contraindications for these methods of plastic surgery, the choice of method depending on the location, size and relief of the wound defect, as well as the choice of the donor zone, and the results of further special treatment have not been studied enough. Thus, the development of modern methods of reconstruction is relevant and modern [IR Dashkova, 2009].

The development of medical technologies is aimed primarily at minimizing surgical trauma, the development of modern combined surgical and radiation treatment methods. This made it possible to significantly improve the quality of services provided and reduce the disability of patients. Ophthalmology, as a special area of ophthalmology, developing at the intersection of two disciplines, certainly did not stand aside from the general progress and actively introduced into practice technologies that make it possible to diagnose a tumor in a timely manner and expand the indications for organ-preserving types of treatment.

Currently, various methods of surgical treatment of benign tumors of the eyelids and conjunctiva are used: traditional surgical (instrumental), laser evaporation, diathermocoagulation, methods of radio, photo, cryocoagulation. Each of these methods has advantages and disadvantages not only in terms of treatment results, rehabilitation time, but also in terms of economic indicators. Traditional surgical treatment is most often used, but even it often excludes the possibility of preserving the lacrimal drainage, and sometimes the protective function of the eyelids, the recurrence rate after it ranges from 3 to 40%. The reason for the incomplete effect may be the insufficient radicalism of the intervention due to the risk of injury to surrounding healthy tissues due to the location of the neoplasm on an uneven surface (eyeball, corner of the eye, eyelids) [E.S. Onishchenko, et al., 2014]. Especially often, relapses occur in the treatment of eyelid hemangioma, which accounts for up to 29% of all adnexal tumors. On the face, hemangiomas often show a destructive growth pattern, similar to infiltrating, characteristic of malignant tumors. Without a capsule, hemangiomas aggressively grow into the surrounding tissues, leading to their destruction, causing both cosmetic and functional harm. In the usual practice of an ophthalmologist, such fairly common benign neoplasms of the eyelids as atheroma (trichodermal cyst), papilloma, senile wart, skin horn, nevus, xanthelasma, as well as conjunctiva - retention cyst, granuloma, papilloma, nevus, are removed by traditional invasive surgery. Of the complications of the surgical method, obliteration of the lacrimal outflow tract, inversion of the eyelids, eversion of the eyelids, trichiasis, madarosis, cosmetic defects such as scars, tissue hyperplasia (granulomas),







neovascularization of the conjunctiva, eyelid deformity are known. It is known that in case of skin cancer, the head area (facial part) is mainly affected, and therefore, when choosing a treatment strategy, it is necessary to take into account not only the therapeutic, but also the cosmetic result. The method of choice in the treatment of malignant neoplasms of the scalp is cryodestruction, based on the destructive effect of ultra-low temperatures on biological tissues [A.N. Steblyuk et al., 2019].

For the treatment of malignant neoplasms of the eyelids of epithelial origin, various approaches are used: cryotherapy, irradiation, laser excision, photodynamic therapy, etc. [Suslo I.S. et al., 2011; Brovkina A.F. et al., 2014]. However, when the tumor is localized at the edge of the eyelid, the use of such techniques is either impossible or fraught with the following serious complications: a violation of the structure up to necrosis of the tissues of the eyelid, which leads to the uncertainty of the histological picture; deformation of the edge of the eyelid; extensive colobomas of the eyelid with the subsequent development of dry eye syndrome, corneal syndrome, the most severe exposure complication. Radical surgical removal is the "gold standard" for the treatment of malignant neoplasms of the eyelids of epithelial origin. The main criterion for radical surgical treatment of BCC is the frequency of tumor recurrence, which is 1-5% with radical removal of BCC, and reaches 38% or more with non-radical removal [Walker P., 2006; Santiago F., 2014; Iljin A., 2016]. To close the defects of the margin of the eyelids after a full-thickness resection, many methods are used. Classical reconstructive surgery for eyelid defects includes layer-by-layer closure of defects in the tarsoconjunctival and musculocutaneous layers. For the reconstruction of the posterior plate of the eyelids, tarsoconjunctival, periosteal, mucous pedicled flaps or similar autografts, alloplants, etc. are used [Sullivan S.A., 2003; Toft P.B., 2016; Nuraeva A.B., 2017]. Displaced musculocutaneous flaps and grafts are used to replace defects in the anterior plate of the eyelids [McCord C.D., Codner M.A., 2008]. The choice of reconstruction method depends on the size of the defect, its localization, elasticity and extensibility of the tissues surrounding the eyelids. In cases where a full-thickness defect occupies more than a third of the length of the eyelid and its direct closure is impossible, a more complex technique is used [Grusha Ya.O. et al., 2012, 2013; Alvaro Toribio J., 2015; Alyabyeva I.O., Grishina E.E., 2017].

The most difficult for surgical reconstruction are extensive full-thickness deformities of the eyelids, which are difficult to close only by moving local tissues. In such severe clinical situations, preference is given to a pedicled skin flap or free skin grafting. The complexity of the task of restoring the normal shape, anatomy and functional activity of the eyelids with full-layer cicatricial defects of the eyelids with the destruction of the tarsus is also due to the need to form their supporting structure, without which





transplantation of skin autografts is ineffective. According to the literature, tarsal defects are restored by transplanting the tarsal plate of the intact eyelid or formed from the auricle or ear helix, as well as using a free flap from the hard palate. Due to the high requirements for the results of the operation (anatomical, functional and aesthetic) for cicatricial defects of the eyelids, there is a need to find new approaches to solving this problem. Obviously, one should agree with the opinion of the specialists of the European Society of Plastic and Reconstructive Surgery that the optimization of the surgical treatment of eyelid deformities is inextricably linked with the use of a combination of several tissue flaps that allow for the simultaneous complete reconstruction of the eyelids, their high-quality engraftment by forming an optimal vascularized bed in the recipient zone. , on which the course of the reparative process and the type of scarring depend [Banshchikov P. A., 2021].

Scientifically substantiated and successfully implemented new methods for the reconstruction of postoperative defects of the eyelid margin using an autologous "lower" periosteal flap obtained from the frontal process of the zygomatic bone and having a maximum length almost twice the size of flaps and autografts currently used, as well as its combination with tarsoconjunctival flap or graft [R.F. Eleftheria, 2018].  
Types of combined reconstructive plastic surgery in patients with skin cancer:

Types of combined plastic surgery

Skin-fat flap on the feeding leg (rotational)

+ free autodermoplasty

Combination of skin-fat flaps

"Pulsating dermatension" + free autodermoplasty

ischemia-adapted graft

Types of plasty in defect replacement: Frontal dermal fat flap: midline, paramedial, insular, delayed 2-stage plasty, nasolabial adipose dermal flap, islet, delayed 2-stage plasty, V-Y sliding flap, cervicofacial flap, transposition flap , rotational flap.

Postoperative complications: wound inflammation and suppuration, partial ischemia, partial necrosis, complete necrosis, suture eruption, wound dehiscence after suture removal [IR Dashkova, 2009].

Postoperative complications of reconstructive operations include: a change in the position of the eyelid, the appearance of lagophthalmos, necrosis of flaps or grafts, prolonged healing and soreness of the donor site, corneal syndrome, gross cosmetic defects, including loss of eyelashes, etc. [Mauriello J.A., 2000; Brazzo B.G., 2003].

Thus, by now, there is an obvious need for further improvement of diagnostic methods aimed at determining the true size and distribution zone of the neoplasm in the periocular region. The problem of developing new approaches to the reconstruction



of a postoperative eyelid defect with an assessment of the immediate and long-term results of surgical treatment remains relevant.

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