

EYE PROSTHETICS IN PATIENTS WITH ANOPHTHALMOS AND SUBATROPHY

Nashaat Al Khateeb^{1,3}  , **Viktor Shklyaruk**^{1,2} 
,
Kibriyo Odinaeva^{1,4} , **Loai Daragma**¹,
Larisa Shklyaruk¹ 

¹Peoples' Friendship University of Russia, Medical Institute, Moscow;

²Eye Prosthetics Center, Moscow;

³Limited Liability Company "Medicina", Moscow;

⁴Medsi Group of Companies, Moscow, Russia



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 Lnsa_109@yahoo.com

ABSTRACT

One of the important medical and social problems in patients with anophthalmos today is the elimination of a cosmetic defect [3,7]. The eye prosthesis has not only cosmetic, but also therapeutic and prophylactic value, protecting the eye cavity from the irritating effect of environmental factors. Prolonged absence of a prosthesis in the conjunctival cavity causes a chronic inflammatory process and its reduction [2,4,8].

The aim of the study: To improve the functional and cosmetic effect of ocular prosthetics in patients with anophthalmos and subatrophy.

Materials and methods: Ophthalmological, electron microscopic, laboratory research methods were used in the work.

Conclusions: Primary ocular prosthetics should be carried out within the first month after surgery. The presence of an adequate musculoskeletal stump provides high results of the cosmetic effect of ocular prosthetics. Individual ocular prosthetics is the most optimal type of prosthetics, which achieves the expected cosmetic and functional results.

Keywords: ocular prosthetics, eye subatrophy, anophthalmos.

INTRODUCTION

Elimination of a cosmetic defect in patients with anophthalmos is an important medical and social problem [3,7]. The eye prosthesis has not only cosmetic, but also therapeutic and prophylactic value, protecting the eye cavity from the irritating effect of environmental factors. Long-term absence of a prosthesis in the conjunctival cavity causes a chronic inflammatory process and its reduction, and the absence of a prosthesis in children or its irregular replacement leads to a lag in growth not only of the eye cavity, but also of the corresponding half of the face [2,4,8].

An effective method of medical and social rehabilitation for patients with anophthalmos is ocular prosthetics, in some cases in combination with surgical operations in the orbit [5].

To achieve the best cosmetic result, it is necessary to form a voluminous well-movable stump, which is

achieved by introducing an implant. Insufficiency of the musculoskeletal stump and a large volume of the conjunctival cavity leads to enucleation without implantation of the liner. This situation forces the use of heavy and large ocular prostheses that do not lead to the expected cosmetic result from ocular prosthetics. In addition, the constant inflammatory reaction of the conjunctival cavity is one of the main factors leading to aggravation of the problem (shortening of the arches, reduction of the conjunctival cavity and shortening of the operating time of the ocular prosthesis). Based on the above, individual ocular prosthetics, when an ocular prosthesis is made taking into account the characteristics of a particular patient, with proper care of the ocular prosthesis and the conjunctival cavity, is the best method to achieve the expected cosmetic and functional results of ocular prosthetics [1,4,6].

The aim of the study: To improve the functional and cosmetic effect of ocular prosthetics in patients with anophthalmos and subatrophy.

MATERIALS AND METHODS

The work is carried out at the Department of Eye Diseases of the RUDN University and at the Center for Ophthalmic Prosthetics in Moscow. The study included 1102 patients were analyzed. The period from the moment of enucleation is from 5 days to 60 years, the age of patients is from 1.0 month to 94 years. Men - 674, women - 428 of them children 168.

In 53% of cases, glass prostheses were used, and plastic in 47%. Single-walled ocular prostheses were used in 26% of cases, while double-walled ones were used in 74% of cases. In 1047 patients (95%), individual prosthetics were performed. Used prostheses were made in the laboratories of the Center for Ocular Prosthetics. And an eye prosthesis from the assortment of mass production was selected in 61 patients (5%). Patients with anophthalmos were 893 (81%), with subatrophy of the eyeball 209 (19%). Ophthalmological, electron microscopic, laboratory research methods were used in the work.

RESULTS

Good cosmetic results were obtained in patients with subatrophy of the eyeball in 86.3%, with anophthalmos in 67.2%. Cosmetic results in patients with subatrophy were better, since the own modified eye is a well-movable musculoskeletal stump for a thin-walled prosthesis. But even under these conditions, the effectiveness of prosthetics decreased due to the appearance of inflammatory processes in the conjunctival cavity. Patients complained of foreign body sensation, pain in 72.2%. In 36.1% of cases, the presence of mucopurulent discharge in the conjunctival cavity was noted, in 2.9% - sanioserous. 29% reported the presence of these phenomena constantly.

Patients were prescribed etiotropic treatment: disinfectant, antibacterial, hormonal, vasoconstrictor and astringent drugs in the form of eye drops.

When examining prostheses using a slit lamp, organic and mineral deposits in the form of hard-to-remove plaque were found on the surface in 65% of cases. Our studies show that in 87% of patients with chronic irritation of the conjunctiva, there is a shift in the acid-base balance to the alkaline side (pH up to 9.0-11.0), which causes discomfort and leads to a reduction in the life of prostheses and the maintenance of traumatic conjunctivitis. The use of moisturizing and lubricating drops in this case leads to the normalization of pH and brings these values closer to normal, but the effect lasts for 3-4 hours.

To clean ocular prostheses from various types of deposits and remove colonies of growth of pathogenic microorganisms, multifunctional solutions for soft contact lenses were used, which contain polyhexamethylene biguanide as the main disinfectant.

For a more objective assessment of the effectiveness of the treatment of conjunctivitis of various genesis of the prosthetic cavity, the patients were divided into 2 groups - control and experimental. The control group included patients who wore prostheses selected from standard mass forms.

Anti-inflammatory and antibacterial treatment, treatment of the prosthesis and care of the conjunctival cavity were carried out with identical solutions and preparations with patients from the experimental group who underwent individual prosthetics.

After the treatment, in patients of both groups, the cultures were sterile, but in the control group, 54% of patients had inflammation in the form of a mucopurulent discharge, hyperemia, a feeling of pressure, and pain in the prosthetic cavity. In the experimental group, with regular care for the prosthesis and cavity, such phenomena were observed in 25% of patients. In the study of the pH of the conjunctival cavity in the control group, a shift to the alkaline side was revealed in 95% of cases. Mucosal hyperemia in patients of the control group remained in 57% of cases, in the experimental group in 27%. Discharge and deposits on the prosthesis, which were removed during treatment, reappeared during wear in patients in the control group. In patients of the experimental group, during the entire period of wearing and using solutions and drops, the surface of the prostheses remained clean, only 5.6% of patients had fat deposits. Discomfort in

patients of the control group remained in 85%, in the experimental group - in 18%.

The average period of wearing glass ocular prostheses in the control group was 11.5 months, in the experimental group 13.5 months. The average period of wearing plastic ocular prostheses in the control group was 23.4 months, in the experimental group 25.5 months. There were no negative dynamics, cases of faster wear and damage to the structure of ocular prostheses.

CONCLUSIONS

1. Primary ocular prosthetics in patients with anophthalmos should be carried out within the first month after the operation, and in patients with subatrophy within 6-12 months from the moment of injury.
2. The presence of an adequate musculoskeletal stump provides high results of the cosmetic effect of ocular prosthetics.
3. Individual ocular prosthetics takes into account the anatomical features of each patient and his individual wishes, in which the expected cosmetic and functional results are achieved.
4. The developed technique for the complex care of the ocular prosthesis and the prosthetic cavity allows: to properly and effectively clean and disinfect the ocular prosthesis, maintain the level of acid-base balance within the normal range and prevent the occurrence of a chronic inflammatory process in the conjunctival cavity.

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