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ANALYSIS OF MODERN METHODS OF TREATMENT OF RETINAL DETACHMENT IN CONGENITAL ANOMALIES OF THE OPTIC NERVE

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ABSTRACT: Optic pit and morning glow syndrome are rare congenital abnormalities of the optic nerve. Their frequency is 1:11000 [1]. Moreover, up to 70% of such anomalies are accompanied by serous retinal detachment. A feature of the latter is its spread to the macular region and fovea, which leads to decreased vision. The cause of retinal detachment in these anomalies is the presence of a defect in the peripapillary sclera, through which the subretinal space is anatomically connected to the subarachnoid space nervus opticus. A number of authors have already described various options for surgical treatment of non-rhegmatogenous retinal detachment with congenital anomalies of the optic nerve. Thus, for the optic nerve fovea, delimiting transpupillary peripapillary laser coagulation, a method of fenestration of the optic nerve sheaths, vitrectomy with pneumoretinopexy and drainage of the subretinal space through the sclera were proposed. But these methods were not always effective [2].

Key words: Nervus opticus, strabismus, latent hyperopia.

ANNOTATION: Lens surgery is one of the most dynamically developing and widely demanded branches of ophthalmic surgery at present. The prevalence of lens diseases, on the one hand, and the development of modern technologies with the widespread introduction of phacoemulsification, on the other, have significantly increased the number of surgical procedures. At the same time, cataract surgery is sometimes associated with intraoperative complications, one of which is rupture of the posterior capsule with dislocation of the lens into the vitreous body and its fall to the fundus. This complication is an indication for vitreoretinal surgery in the scope of vitrectomy, elevation of the lens from the fundus to the plane of the pupil using perfluoroorganic fluids (PFOR), phacoemulsification (FEC) and removal of heavy fluid and lens masses. Assessing the electrogenesis of the retina and optic nerve during this forced extended volume of surgical intervention is an urgent scientific task.

Pathology of the optic nerve is divided into congenital and acquired. The most common congenital pathologies include: myelin fibers of the optic nerve head and retina, which represent one of the most common anomalies [4]. Normally, myelination of the nerve fibers of the optic nerve breaks off at the cribriform plate and does not extend to the disc. Sometimes it spreads to the nerve fibers of the disc and the retina. Myelin fibers are white, have uneven edges, resembling a flame, can cover the disc itself over a greater or lesser extent, but can also be in the retina without connection with the disc, sometimes located in the form of isolated areas of a round shape. By themselves, they do not affect the state of eye function. With very rare localization in the area of the macula, they can reduce visual acuity to varying degrees. Sometimes myelin fibers are combined with other developmental anomalies (microphthalmos, choroidal coloboma, etc.).

Pseudoneuritis, which ophthalmoscopically resembles a congestive disc or papillitis, is usually bilateral and differs little from these acquired diseases. In most cases, this anomaly is combined

with more or less high farsightedness, rarely with myopia. Decreased vision with pseudoneuritis depends on refractive errors, and not on pseudoneuritis.

Diagnosis is often very difficult. Fluorescein angiography helps to establish the congenital nature, which makes it possible to differentiate pseudocongestion from a congestive disc. With the latter, pronounced extravasal hyperfluorescence was noted, examination of the blind spot, the boundaries of which in pseudoneuritis are always normal, as well as observation over time. Cases of familial spread of false congestive disc have been described.

Colobomas of the optic nerve head occur in combination with ectasia of the sclera, colobomas of the retina, choroid and other anomalies. Formed as a result of an anomaly in the closure of the embryonic cleft. A complete coloboma has the shape of a round or oval white depression, surrounded by a pigment ring, located in place of the disc. Coloboma of the optic nerve is often combined with posterior lenticonus, optic disc fossa, and choroidal coloboma. In children, coloboma is combined with epidermal nevus syndrome, focal Goltz skin hypoplasia, oculoauriculovertebral dysplasia (Goldenhar syndrome), Down syndrome, Edwards syndrome, and Warburg syndrome. Among the congenital anomalies, one can note congenital and hereditary atrophy of the optic nerve, which can develop secondary due to congenital and hereditary dysostoses of the skull bones and in rare cases as a result of intrauterine infectious diseases of the brain and optic nerves, as well as a double optic nerve disc, an anomaly that It is usually one-sided and can be accompanied by both preservation of normal vision and its sharp impairment [5]. There may be optic aplasia, disc pits, congenital disc pigmentation, disc and retinal drusen.

Acquired pathologies include congestive disc, inflammatory diseases, degenerative changes, optic nerve atrophy, neoplasms, and damage.

Previously, we proposed a method of surgical treatment of retinal detachment due to a congenital anomaly of the optic nerve - bindweed syndrome, which is used in the treatment of this rare pathology. Its essence is the preliminary elimination of the anatomical defect in the peripapillary sclera (to eliminate communication with the subarachnoid space of the optic nerve) followed by the removal of subretinal fluid through retinopuncture. To study the effectiveness of the method for other anomalies of the optic nerve head (OND), we analyzed our own clinical material.

The goal is to evaluate the effectiveness of surgical treatment of retinal detachment in the optic nerve fossa and its other anomalies, and to analyze the results of treatment.

Material and methods. Surgical treatment was performed for retinal detachment that occurred in 4 patients with the optic nerve fossa (4 eyes) and in one patient with morning glow or bindweed syndrome (1 eye). There were 4 women, 1 men. The age of the patients ranged from 6 to 43 years. Visual acuity before surgery was 0.1-0.01 (average 0.03). The duration of retinal detachment is on average 2.2 months.

In all cases, vitrectomy was first performed, then perfluoroorganic compound (PFOS) tamponade was performed in the central parts of the retina to displace subretinal fluid. At the height of the detached retina, retinopuncture was performed, followed by aspiration of subretinal fluid. In order to block the scleral defect near the optic disc and around the retinopuncture, the retina was coagulated using an endolaser. Next, a complete PFOS tamponade was carried out for a period of 5 days to form a chorioretinal adhesion. After this, PFOS was replaced with silicone oil 5700 cst. In a patient with bindweed syndrome, at the first stage of treatment, restrictive transpupillary laser coagulation of the retina was performed. 2 weeks after the formation of the demarcation

line, vitrectomy was performed according to the method described above. Silicone tamponade was completed after 2 months. in all patients. The follow-up period ranged from 2 to 5 years.

Results and discussion. Anatomical fit of the retina was achieved in all cases during surgery, which was maintained in the postoperative period. After 2-3 weeks, pigmented laser coagulates formed around the optic disc. In no case were there signs of filtration from scleral defect areas. Visual acuity in all eyes increased and reached 0.05-0.4 (average 0.15). IOP level - 22 mm Hg.

After 8 months After removing the silicone, the retina was reattached in 4 eyes. In 1 case of the presence of an optic nerve fossa, rhegmatogenous retinal detachment occurred, caused by the development of a proliferative process in the periphery. This required several stages of endovitreal intervention, after which the retinal detachment healed and visual acuity increased to 0.08.

Conclusions. The developed method of surgical treatment of retinal detachment in the optic nerve fossa and bindweed syndrome made it possible to achieve good anatomical and functional results in all analyzed cases. In our opinion, a similar method can be used for other optic disc anomalies accompanied by non-rhegmatogenous serous retinal detachment and having a similar etiology of the disease.

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