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IMPORTANCE OF EYE MICROSURGERY IN MODERN TREATMENT

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Abstract: According to the World Health Organization, more than 2 billion people now have vision loss and related disabilities due to eye diseases. However, about 1 billion of them can be treated with surgery. Eye injuries - eye injuries from various objects (stone, sand, cement, lime, metal, wood, glass, coal, etc.). In this case, the eye hurts, tears flow a lot, and the patient cannot look at the light. This article provides information about the importance of eye microsurgery in modern treatment.

Keywords: Eye microsurgery,Ophthalmology, Cataract, Retina, Glaucoma, Laser surgery,Robotic surgery, Minimally invasive, Recovery time, Risk of complications.

Introduction Eye microsurgery has revolutionized the field of ophthalmology, providing precise and minimally invasive solutions for various ocular conditions. This article highlights the importance of eye microsurgery in modern treatment, exploring its benefits, advancements, and impact on patient outcomes. Until recently, it was not possible to carry out high-tech surgical operations in the field of ophthalmology in our country. Because of this, most patients had to go to foreign countries for treatment.Today the situation is different. When a new era of medical reforms began in our country, all the latest and most complex treatment and diagnostic methods were put into practice. ClassDoctor performing laser eye vision correction operationical methods of eye surgery are gradually giving way to modern microsurgical interventions. Ophthalmologists of the private clinic of Israel Herzliya Medical Center apply eye microsurgery techniques extensively. With the use of an operating microscope, they carry out such procedures as vision correction, treatment of cataracts, glaucoma and other treatments of eye diseases.

The history of ophthalmology goes back to the time of Ibn Sina. Volume 3 of his book "Laws of Medicine" is devoted to eyes and eye diseases. Ophthalmology began to develop as an independent science in the 17th century, the idea of the light-absorbing properties (dioptrics) of typical eye environments was created at that time, the understanding of refraction anomalies and their correction with glasses was thus established, the fact that the retina of the eye is its light-sensing part, cataract is the gem of the eye. It was found that it consists of a dimming. At the end of the 18th century, surgeons were mainly engaged in ophthalmology. In the first half of the 19th century, mainly external diseases of the eye were studied and surgical techniques were developed. In the second half of this century, when the ophthalmoscope was invented, diseases of the "funda" of the eye - the retina and the optic nerve - began to be studied in depth. At the end of the 19th century, thanks to the success of bacteriology, several eye diseases were found to be contagious. In the 20th century, advanced methods of eye examination, including biomicroscopy methods (gonioscopy, tonography, etc.) were introduced. Spectacle optics have achieved success.

Yesterday, qualified surgeons from the capital carried out 16 high-tech operations in the region with the help of modern phacoemulsifier equipment, more than 50 patients were given the necessary medical advice. If this practice starts to be used in our country, patients who are blind due to diseases related to the retina will be able to see the world again with their own eyes. Eye

surgery is a surgical procedure performed by an ophthalmologist on the eye or its appendages. The eye is a delicate organ that requires extreme care before, during, and after surgery. The eye surgeon is responsible for choosing the appropriate surgical procedure for the patient and taking the necessary safety precautions. Fluorescence angiography is used by eye doctors (ophthalmologists) to evaluate the blood vessels of the retina, choroid, optic disc, and iris . Among the common groups of ophthalmic diseases, Fluorescein Angiography can detect diabetic retinopathy (neovascularization), vascular occlusion, retinal artery occlusion, optic disc swelling, and tumors. In addition, dye transit time (the time between dye injection and its appearance in the examined blood vessels) helps to objectively measure the speed of blood flow through the imaged blood vessels. Eye injuries - eye injuries from various objects (stone, sand, cement, lime, metal, wood, glass, coal, etc.). In this case, the eye hurts, tears flow a lot, and the patient cannot look at the light. There are mainly 3 types of eye injuries: trauma, lacerations and burns. Eye-damaging objects are large, medium and smaller, sharp and impenetrable, solid, liquid and light-shaped; they are sharp cutting objects such as nails, knives, scissors, forks, wood, sticks, scrapers, bows. Small objects can cause serious eye injuries if struck lightly. If a foreign body hits the eye hard, it can penetrate the cornea or the white of the eye, and in some cases it can come out through the eyelid. When the eyelid is severely damaged, it loses its shape. In eye injuries, blood flows under the conjunctiva and into the eye (hyphema, hemophthalmus). Eye loss due to foreign body penetration and severe injuries.

1. Precision and Accuracy

- Enhanced Visualization: Advanced microscopes and imaging technologies allow surgeons to see intricate details of the eye, leading to precise interventions. - Minimally Invasive Techniques: Microsurgical methods reduce tissue damage, promoting faster recovery and less postoperative discomfort.

2. Treatment of Complex Conditions

- Cataract Surgery: Phacoemulsification, a microsurgical technique, has become the gold standard for cataract removal, offering quick recovery and improved vision. - Retinal Disorders: Microsurgery is crucial for treating retinal detachments, macular holes, and diabetic retinopathy, significantly improving visual outcomes. - Glaucoma: Minimally invasive glaucoma surgeries (MIGS) reduce intraocular pressure with fewer complications compared to traditional methods.

3. Technological Advancements

- Laser-Assisted Procedures: Femtosecond lasers enhance precision in corneal surgeries, including LASIK and cataract procedures. - Robotic Assistance: Robotic systems enable enhanced control and stability during delicate eye surgeries, improving surgical outcomes.

4. Improved Patient Outcomes

- Reduced Recovery Time: Minimally invasive approaches result in shorter recovery periods and quicker return to daily activities. - Lower Risk of Complications: Precision techniques minimize the risk of infections, bleeding, and other postoperative complications. - Enhanced Quality of Life: Successful eye microsurgery can restore vision, significantly improving patients' quality of life and independence.

5. Broader Applications

- Refractive Surgery: Microsurgical techniques correct refractive errors such as myopia, hyperopia, and astigmatism, reducing the need for glasses or contact lenses. - Corneal Transplants: Microsurgery allows for precise removal and replacement of damaged corneal tissue, improving

graft survival and visual outcomes. - Pediatric Ophthalmology: Delicate microsurgical methods are essential for treating congenital eye conditions and pediatric cataracts, preserving vision from an early age.

The eye may be blinded by the touch of impenetrable objects, severe changes may occur in its external and internal parts. As a result of bleeding and swelling of the membranes and inside of the eye, vision is blurred. As they are absorbed, vision improves, and sometimes retinal damage leads to blindness.Eye burns are thermal, chemical and thermochemical. Acids and alkalis can burn the anterior part of the eyes, eyelids, mucous membranes and corneas. The penetration of chemicals into the eyeball can lead to serious complications. In the process of work, ultraviolet, infrared, X-ray and other rays harm the eyes. Eye injuries can also be caused by various firearms.In case of an eye injury, it is necessary to consult a general practitioner or an ophthalmologist immediately. In order to prevent eye damage, it is necessary to wear protective glasses, to equip the workplace in accordance with the rules of hygiene and safety equipment.

Thanks to the implementation of the achievements of the science of ophthalmology in practice, the epidemic of acute epidemic conjunctivitis and trachoma has been completely eliminated in Uzbekistan. Scientific work is being carried out to solve the problems of eye vascular diseases, myopia, blindness and other diseases on a scientific basis. Eye microsurgery is developing, new medicines prepared from local raw materials are being used to treat various eye diseases (N. M. Normatova, M. S. Krsimo-va, M. H. Karimova, etc.). Currently, scientific research work in the field of ophthalmology is being carried out in the departments of all medical institutions and their clinics in Uzbekistan, as well as in the Republican Scientific Center of Ophthalmology.

Conclusion : Eye microsurgery plays a pivotal role in modern ophthalmology, offering precise, safe, and effective treatments for a wide range of ocular conditions. Technological advancements continue to enhance the capabilities of microsurgery, leading to better patient outcomes and an improved quality of life. As the field progresses, the importance of eye microsurgery in maintaining and restoring vision cannot be overstated. It is planned to establish a new simulation center at the institution this year. As a result, training of specialists in the programs "Cataract phacoemulsification", "Phacoemulsification in non-standard cases of cataract", "Keratorefractive laser surgery" and "Modern methods of diagnosis and treatment of glaucoma" will be launched.

References:

1. „Top Global Pharmaceutical Company Report“. The Pharma 1000 (2021-yil noyabr). 2022-yil 15-martda asl nusxadan arxivlangan. Qaraldi: 2022-yil 29-dekabr.
2. ↑ O‘zME. Birinchi jild. Toshkent, 2000-yil
3. Kunimoto, Derek. The Wills eye manual: office and emergency room diagnosis and treatment of eye disease., 4th, Philadelphia, PA: Lippincott Williams & Wilkins, 2004 — 365 bet. ISBN 978-0781742078.
4. Kumar, Vinay „Chapter 29: Eye, Retina and Vitreous, Retinal Vascular Disease“,. Robbins basic pathology, 8th, Philadelphia: Saunders/Elsevier, 2007. ISBN 978-1416029731.