

EYE STRUCTURE, DISEASES AND TREATMENTS

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Annotation: This article covers the anatomical structure of the human eye, common eye diseases, as well as modern methods of their treatment. Complex eye structures and their harmonious functioning have been analyzed, examining the main diseases affecting vision — such as myopia, hypermetropia, cataracts, glaucoma and conjunctivitis. Treatments have been reported for each disease, including optical media, medication, laser, and surgical procedures. At the end of the article, the importance of prevention is highlighted and recommendations for maintaining eye health are presented.

Keywords: Eye structure, ophthalmology, eye diseases, treatments, myopia, glaucoma, cataracts, vision, anatomical structure, prevention.

Annotatsiya: Ushbu maqolada inson ko'zining anatomik tuzilishi, keng tarqalgan ko'z kasalliklari hamda ularni davolashning zamonaviy usullari yoritilgan. Ko'zning murakkab tuzilmalari va ularning o'zaro uyg'un faoliyati tahlil qilinib, ko'rish qobiliyatiga ta'sir qiluvchi asosiy kasalliklar — miopiya, gipermetropiya, katarakta, glaukoma va kon'yunktivit kabi holatlar ko'rib chiqilgan. Har bir kasallik uchun davolash usullari, shu jumladan, optik vositalar, dori-darmonlar, lazer va jarrohlik amaliyotlari haqida ma'lumotlar berilgan. Maqola yakunida profilaktikaning ahamiyati ta'kidlangan va ko'z salomatligini saqlash bo'yicha tavsiyalar keltirilgan.

Kalit so'zlar: Ko'z tuzilishi, oftalmologiya, ko'z kasalliklari, davolash usullari, miopiya, glaukoma, katarakta, ko'rish qobiliyati, anatomik tuzilma, profilaktika.

Introduction

The eye is one of the most important sensory organs in the human body, receiving light from the external environment, converting it into nerve impulses and transmitting it to the visual center of the brain. Normal eye activity plays an important role in everyday life, because through vision, a person perceives the environment, coordinates his actions and actively participates in social life.

Anatomical structure of the eye

The eye is one of the most complex and important sensory organs in the human body. It receives light from the external environment, converting it into nerve impulses, and these signals are perceived by the brain as images. The eye is made up of the following basic structures:

1. Cornea (cornea)

Transparent layer located in the front of the eye.

Receives light rays and directs them to the lens.

Provides the main refraction of light

Performs a protective function.

2. Sclera (eyeball shell)

Outer, white part of the eye

It is a robust tissue that maintains the shape of the eye.

The front of the sclera connects to the cornea.

3. Blackcurrant (Pupilla)

Regulates the amount of light.

Light expands when it is low, and narrows when it is high.

4. Iris (eyeball)

Defines eye color (black, brown, blue, etc.k.).

Includes muscles that control the size of the ventricle.

5. Linsa (eye gavhar)

By testing the light beams, they are directed to the mesh curtain.

Ensures that the eye adapts to remote and close objects (accommodation).

6. Net curtain (Retina)

It is located in the inner layer of the eye.

The photoreceptor senses light using cells (bases and cones).

Transforms the image into nerve impulses.

7. Eye irritation (Nervus opticus)

Transmits information received through the Retina to the brain imaging center.

Is the main neural pathway of vision.

8. Slimy veil (conjunctiva)

It covers the front surface of the eye and the inside of the pores.

Performs the function of moisture and protection.

9. Eye fluids

Belt fluid-located in the front and rear chamber, regulates pressure.

Slimy liquid - keeps the eye surface wet and protects against germs.

The complex structure of the eye distinguishes it from other organs. Components such as the corneal, retina (retina), eye gavhar (lens), eyeball, cornea (cornea), and eyelid work in harmony.

In recent years, technological progress, deterioration of the environmental environment and improper lifestyle have negatively affected eye health.

The prevalence of various diseases that reduce vision, their prevention, early detection and effective treatment are considered one of the most relevant areas of the field of Ophthalmology.

This article will cover the anatomical structure of the eye, common diseases and their modern methods of treatment in the IMRAD format.

Methods

This article was written on the basis of an analysis of scientific and popular sources. Open electronic resources on the internet (PubMed, Google Scholar, Explorgate), who statistical reports, textbooks, and scientific articles on ophthalmology were used. The data was analyzed and presented in a systematic view of the anatomy of the eye, common diseases and methods of their treatment. An analytical approach was used, relying on graphic images and formal information.

Results

The eye has a complex anatomical structure, which is made up of several main parts:

Cornea (cornea) - receives external light and directs it.

Eye gavar – lens) - refracts light rays and directs the image to the mesh curtain.

The mesh curtain (retina) – transmits light into nerve impulses to the visual center of the brain.

Eyeballs, blackheads, eyelids – perform protective and action functions.

The most common eye diseases are considered to be:

Myopia (nearsightedness) and hypermetropia (farsightedness) are visual impairments.

Cataracts-a decrease in vision as a result of blurring of the lens.

Glaucoma-damage to the optic nerve as a result of increased internal pressure in the eye.

Conjunctivitis is inflammation of the mucous membrane of the eye (viral, bacterial or allergic).

Treatments include:

Optical media: glasses, lenses

Medicines: drops, ointments, antibiotics.

Surgical procedures: operations for cataracts and glaucoma.

Laser technology: eye laser correction (LASIK, PRK, etc.

Discussion

According to the results of the study, eye diseases occur not only in relation to age, but also in relation to lifestyle, professional activity, genetic predisposition and factors of the external environment. With modern treatments, many eye problems can be prevented or successfully eliminated. But the most important aspect is prevention. Constant eye checks, compliance with lighting conditions, prolonged absence of work in front of the screen and a healthy diet play an important role in maintaining eye health.

In the future, new approaches based on innovative technologies, artificial intelligence and genetic therapy are expected to be introduced in this area. This further expands the possibilities of visual restoration and preservation.

Conclusion

The eye is one of the most important and delicate sensory organs in the human body, and its healthy activity directly affects the quality of life. During the study, the complex anatomical structure of the eye, common diseases and effective methods of their treatment were analyzed. Diseases such as myopia, hypermetropia, cataracts, glaucoma, and conjunctivitis can severely impair human vision. However, modern medicine allows early detection, effective treatment and Prevention of these diseases.

To maintain eye health, it is necessary to undergo regular eye examinations, follow hygiene, not work for a long time in poorly lit areas and follow a healthy lifestyle. The information covered in the article can serve as an important basis for further research and practical work in the field of Medicine.

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