

CONTACT LENSES: IS THERE A RISK DAMAGE?

Gomon A. A., Boiko A. O.

Scientific supervisor: senior researcher Glibova K. V.

National University of Pharmacy, Kharkiv, Ukraine

microbiology@nuph.edu.ua

Introduction. Everyone can have a bad vision. This can be congenital, acquired (due to an accident, after surgery, a violation in the body) and hereditary. In order for a person to see better, an ophthalmologist appoints glasses, lenses and operations to replace the lens of the eye.

Aim. Comparative monitoring of conjunctival microbiocenosis in persons with normal vision and wearing contact lenses.

Materials and methods. Analysis of scientific literature and the results of advanced research in the field of medicine and pharmacology

Results and discussion. The microflora of the human eye is represented by saprophyte cultures of pneumococci and staphylococci, which are found in the conjunctival sac. Constantly present in the environment (in soil and dust), and representatives of the genus *Bacillus* (*Bac. subtilis*, *Bac. megatherium*, *Bac. mesentericus*, *Bac. perfringens*). On cleanliness conjunctival sac and the composition of the normal flora of the conjunctiva is influenced by a variety of factors: geographical area, time of year, the nature of production and the related purity of the air in the premises, the age of the individual, respect for the rules of personal hygiene, and others. When air is saturated with dust, the number of microbes inhabiting a normal conjunctiva increases significantly. The composition of the microflora is predominantly mixed in nature and is represented by two, three or more species of bacteria. Bacteriosis in urban and rural residents is different. In the first case, it is 49-55%, in the second - 58.3-57.3%.

Also affects the age factor on the ratio of the conjunctival flora. It is believed that the entry into the conjunctival sac of microorganisms such as *E. coli* and *Vibrio cholerae*, is due to violation of rules of personal hygiene. The microbial composition of the conjunctival sac can change even within a day. So, for example, in the morning after sleep, due to the stoppage of blinking at night, which plays a big role in the self-cleaning of the conjunctiva, it is much richer, and during the day the bacteria in the conjunctival sac can't be found at all.

When performing ophthalmic invasive procedures, the spectrum of

microflora often does not correspond to the microflora revealed several days before the operation, and the sterility of the mucous membrane of the eye is often violated. It is possible that in case of surgery on the eye in the conjunctival sac there will be a pathogenic microflora that is resistant to the antibacterial drug used to sanitize the conjunctiva based on the results of bacteriological studies performed in patients in the preoperative period.

On the conjunctiva of people wearing contact lenses, recorded a large concentration of microorganisms entering the eye from the eyelid skin compared with those with normal vision. The conjunctiva of the eye lens carrier detect obligate skin bacteria century (*Metilobacterium*, *Lactobacillus*, *Acinerobacter* u *Pseudomonas*) is 3 times more than those who do not use lenses. It has also been established that cultures of staphylococcus, which provokes the infection, are isolated from the conjunctiva of the contingent without eye problems.

Bacteriological examination of smears from the conjunctiva in 20 volunteers, of which 9 people regularly wore contact lenses found that users of lenses composition of the surface microflora eye was close to the age of the skin microflora, and the number of some bacteria exceeded the norm almost 3 times. Almost all surveyed who wore lenses, seeded bacteria of *Pseudomonas*, the ability to cause corneal ulcers. The researchers considered two main hypotheses: according to one, this is due to the touch of the fingers to the surface of the eye; On the second - a prolonged pressure of the lens on the eyeball leads to changes in local immunity.

Conclusions. These studies confirm the fact that the introduction of an object into the eye, even if it is a contact lens, is not such an inoffensive manipulation. If you need to wear contact lenses, you should follow the rules of hygiene and asepsis as much as possible, use one-day wearing lenses. The implementation of such rules will preserve the health of the eyes and prevent the occurrence of conjunctival diseases.