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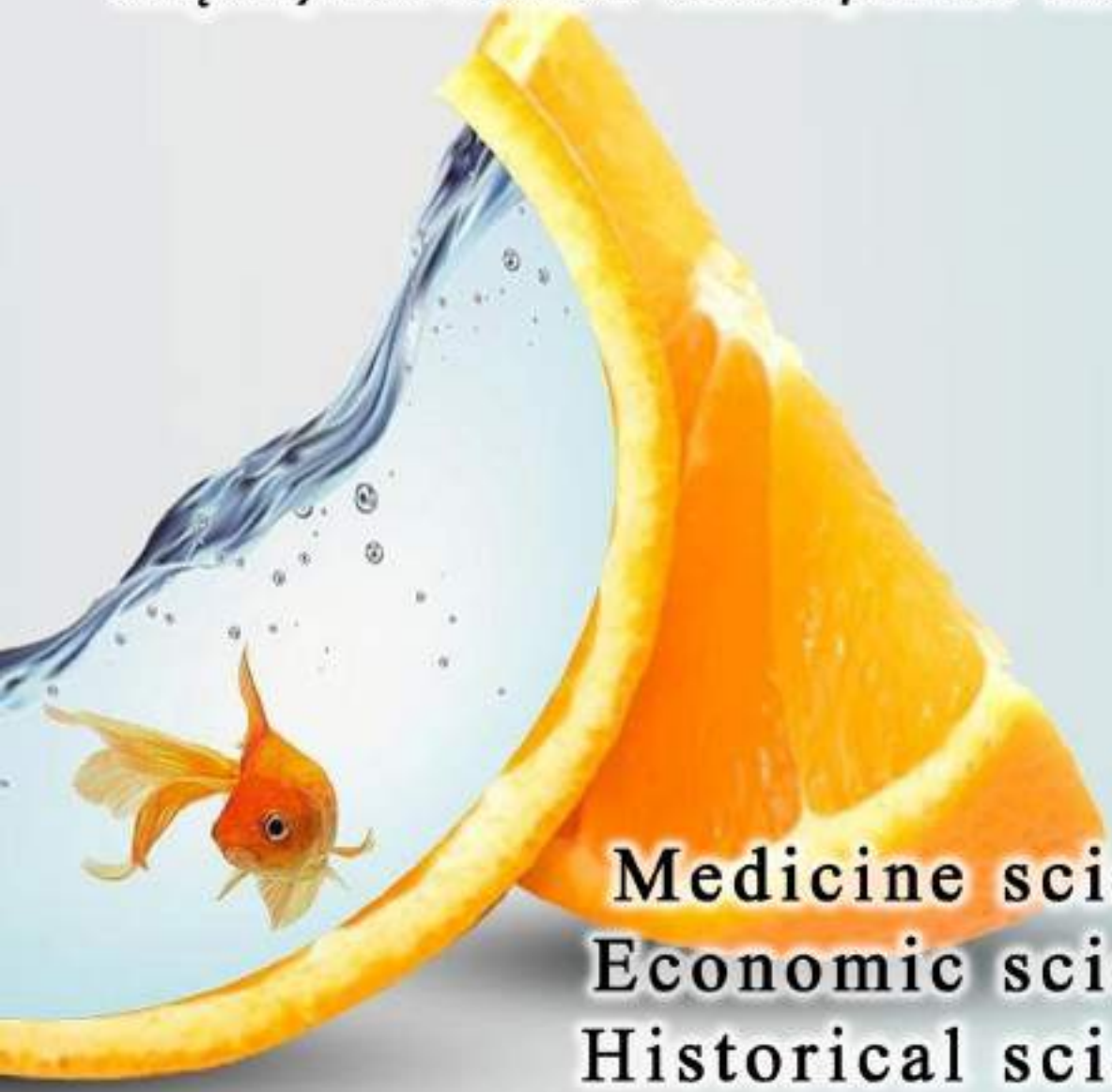

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OTITIS EXTERNA UNDER THE MICROSCOPE: A MODERN VIEW OF TREATMENT

Resume.

During life, on average, every tenth person suffers from otitis externa at least once, and 3-5% of the population suffers from its chronic form. The disease is most common in childhood and among people who are in conditions of high humidity for a long time. The increase in the number of patients with otitis is associated not only with the adverse effects of the environment, the widespread and uncontrolled use of drugs that cause immunological changes in the body, but also with the increase in the prevalence of allergic pathology. A significant role in the etiopathogenesis of otitis is played by the general condition of the body. In this regard, otitis externa is very often observed in patients with diabetes mellitus, impaired immune status.

Keywords: *otitis externa, types, main symptoms, differential diagnosis, treatment tactics*

The share of inflammatory diseases of the external ear in patients of different age groups, according to numerous domestic and foreign studies, is about 17% of all ENT pathologies. In the outpatient and polyclinic chain, the proportion of patients with various forms of otitis reaches 38%, half of them suffer from external otitis. Currently, there is a tendency to increase the incidence of external otitis in people of all age groups.

Such protective mechanisms as a weak acidic environment (pH 5.0-5.7) on the surface of the skin of the external auditory canal and the protective properties of earwax prevent excessive formation of microflora. The development of the inflammatory process in the external ear is preceded by a violation of the integrity of the skin, which can be caused by many factors: injuries, skin changes against the background of metabolic disorders, diabetes mellitus, dermatitis, eczematous processes. Favorable factors for the occurrence of external otitis are narrow external auditory canals, the presence of exostoses, and wearing a hearing aid.

According to the literature, inflammatory diseases of the external ear are of a bacterial nature in 60-98% of cases. The microbial landscape in external otitis has undergone certain changes over time. Thus, the role of Pseudomonas aeruginosa has increased on average to 78%, while Staphylococcus aureus is detected only in 9-27% of cases of the disease. Starting as external otitis caused by Pseudomonas aeruginosa, malignant external otitis can progress to pseudomonas osteomyelitis of the temporal bone. Less commonly, inflammatory diseases of the external ear are found to be Staphylococcus epidermidis, Streptococcus pyogenes, Streptococcus pneumonia, Enterococcae, Escherichia coli, Proteus, Klebsiella pneumonia, Mycoplasma pneumonia, anaerobes and other microorganisms. In addition to bacterial microflora, pathogenic fungi play a significant role in the development of external otitis. In a number of cases, the etiotropic factor is bacterial or bacterial-fungal associations.

Clinical presentation of otitis: main symptoms

The main symptoms of otitis external are pain in the ear (70%), itching (60%), decreased hearing (32%) and a feeling of pressure or distension (22%). Otoscopically, hyperemia and infiltration of the skin of the membranous-cartilaginous part of the auditory canal are determined, its lumen sometimes narrows so much that the eardrum becomes inaccessible for examination. The desquamated epithelium mixes with pus, resulting in a mushy mass with a sharp putrid odor. When pressing on the tragus or pulling the auricle back and up, as a rule, such patients experience pain, which allows for differential diagnosis between inflammation of the external and middle ear. Diffuse external otitis should be differentiated from malignant external otitis, furunculosis, bullous external otitis and seborrheic dermatitis. Oncological diseases of the external ear, fortunately, occur infrequently.

Diffuse external otitis media is characterized by damage to the skin of the external auditory canal, subcutaneous tissue (membranous-cartilaginous part) and the periosteum lying directly under the skin in the bony part of the external auditory canal. The disease is usually accompanied by ear pain, decreased hearing, itching and purulent discharge. The diagnosis is based on the presence of typical signs of diffuse inflammation of the skin of the external auditory canal, which sometimes extends to the eardrum. The process is acute or chronic with periodic exacerbations. In a number of cases, external otitis media caused by Pseudomonas aeruginosa can become malignant and transform into pseudomonas osteomyelitis of the temporal bone. Without treatment, the infection progresses, spreading to the auricle, scalp and parotid salivary glands. Later, the lesion affects the middle and inner ear, which can

lead to the development of meningitis and otogenic brain abscess.

In limited external otitis, the inflammation is always localized in the fibrocartilaginous part of the external auditory canal. This should be taken into account during the differential diagnosis of purulent otitis media accompanied by mastoiditis, when otoscopically determined skin overhang in the anterior superior part of the external auditory canal. The stage of infiltration is characterized by local hyperemia and skin induration. In the abscess stage, skin redness can spread to the entire surface of the external auditory canal, but a sharply painful infiltrate with a clear purulent core at its apex, dense on palpation, is always determined. For limited external otitis, the lesion of the hair follicle and the subcutaneous tissue around it is characteristic. The disease is accompanied by pain in the ear of a gradually progressive, constant nature, which increases when opening the mouth and chewing. Hearing loss is not a characteristic symptom; however, with large boils that block the lumen of the external auditory canal, conductive hearing loss may develop on the affected side.

Diagnosis and differential diagnosis of otitis

The diagnosis of otitis externa is based on the patient's complaints, history of the disease, data on the general clinical picture, as well as the results of otoscopy. The optimal diagnostic method is considered to be laboratory microbiological studies aimed at identifying the causative agent of the disease and determining its sensitivity to specific therapy. Differential diagnosis of diffuse external otitis should be carried out with acute otitis media, purulent mumps, erysipelas, perichondritis of the auricle (without involvement in the inflammatory process of the earlobe) and herpetic otitis.

The characteristic signs of erysipelas of the external ear are symptoms of general intoxication: an increase in body temperature to 39-40 ° C, chills and headache. Erythematous, bullous and bullous-hemorrhagic forms of erysipelas are distinguished. In the erythematous form, there is marked hyperemia and edema of the skin of the entire auricle with clear edges, including the earlobe, as well as sharp tenderness on palpation. The bullous form of the disease is characterized by the formation of bubbles with serous contents against the background of hyperemia of the auricle. In the bullous-hemorrhagic form, the bubbles have serous-hemorrhagic contents. It is also possible for erysipelas to spread to the eardrum. Perichondritis of the auricle is a diffuse inflammation of the epichondral tissue with involvement of the skin of the external ear. Serous and purulent perichondritis are distinguished by their form. The causes of the disease can be injuries, burns, insect bites. Sometimes a complication of a furuncle of the external auditory canal develops, as well as diffuse external otitis. The clinical picture of perichondritis is characterized by pain in the area of the auricle or external auditory canal with irradiation into adjacent tissues. Edema and hyperemia spread throughout the auricle, except for the lobe. In the future, fluctuations may appear due to the formation of purulent exudate. During the progression of the disease, cartilage melts with rejection of necrotic tissues and subsequent deformation of the auricle. With herpetic otitis, pronounced intoxication and fever are observed. Sharp pain in the ear, itching, tingling are also characteristic. The features of herpetic ear lesions include rashes in the form of pink spots with the subsequent formation of vesicles with transparent contents. The rashes are localized along the sensitive nerves (posterior surface of the auricle, earlobe, skin of the external auditory canal). After the bubbles open independently, crusts form after 7-10 days, after which no traces remain on the skin. This disease can cause complications such as arachnoiditis, meningitis, brain abscess, peripheral facial nerve paresis, as well as vestibular disorders and sensorineural hearing loss.

Treatment tactics for otitis externa

Due to the lack of early microbiological diagnostics, treatment tactics for otitis externa in adults and children are mainly based on the initial empirical administration of systemic and local anti-inflammatory drugs. A prerequisite for the effectiveness of antimicrobial therapy for otitis externa is the appointment of broad-spectrum antibacterial drugs with a high level of bioavailability and safety, as well as symptomatic and hyposensitizing therapy.

Therapy for otitis externa is determined by the clinical picture and the nature of the pathogenic microflora. With an uncomplicated course of the disease, a short course of local composite drugs containing antibiotics is sufficient. For patients with moderate severity and severe diffuse external otitis media, in case of increased body temperature, spread of the inflammatory process beyond the auditory canal, presence of regional lymphadenopathy, suspicion of spread of infection to the middle ear or signs of necrotizing process, as well as prolonged course, systemic antibiotic therapy is recommended.

For the treatment of external auditory canal furuncle, as a rule, systemic antibiotics are used. The drugs of choice are protected penicillins or cephalosporin drugs. In the infiltration stage, it is advisable to use antibacterial ointments 3-4 times a day as local therapy, possibly in combination with physiotherapy (UHF therapy). If such treatment is ineffective in the abscess stage, surgical intervention (opening of the furuncle) is resorted to.

Treatment of erysipelas is carried out in a hospital setting. Antibiotics of the penicillin series are used in combination with hyposensitizing therapy. The affected areas are treated with a 3-5% solution of potassium permanganate.

In perichondritis of the auricle, the drugs of choice are broad-spectrum antibiotics: cephalosporins of the III-IV generation, fluoroquinolones - for adults and children over 15 years of age. The affected areas are treated with a 3-5% solution of potassium permanganate, ointment applications with polymyxin are performed, as well as physiotherapeutic procedures (UVF, UHF therapy, laser therapy). In the event of fluctuations, subperichondral abscesses are opened and drained with the removal of necrotic tissue areas.

In case of herpetic lesions of the external ear, treatment should be comprehensive: detoxification, anti-inflammatory and hyposensitizing therapy. In addition,

acyclovir should be prescribed as a specific antiviral agent. To prevent secondary bacterial inflammation, antibiotics of the penicillin and cephalosporin series are used.

Nitrofungin is indicated for mycotic external otitis. It is prescribed for various types of fungal skin lesions: trichophytosis, fungal eczema, epidermophytosis, candidiasis. In candidiasis, nitrofungin treatment can be combined with clotrimazole. In case of damage by mold fungi, amphotericin B, amphoglucamine, mycoheptine are effective.

The choice of etiotropic therapy for bacterial diffuse external otitis depends on the type of pathogen. For systemic antibacterial therapy, broad-spectrum antibiotics are used, giving preference to drugs with anti-cyanopneusin activity (III generation cephalosporins, fluoroquinolones - for adults and children over 15 years of age).

Topical drugs play a central role in the treatment of external otitis. Given the spectrum of the main pathogens of acute diffuse external otitis, it is necessary to use drugs that are active against Staphylococcus aureus and Pseudomonas aeruginosa, and taking into account the characteristic pain syndrome, it is advisable to prescribe local drugs that include an anesthetic component. Aminoglycosides are most often used as antibacterial agents for the local treatment of diffuse external otitis, since these drugs quite fully cover the spectrum (primarily gram-negative microorganisms - pathogens of external otitis) and provide a pronounced application effect. Drugs used for local therapy of external otitis are available in the form of ointments, creams, ear drops. The latter are the universal and most common form of the drug. Ideally, they contain polymyxins - antibiotics that are synthesized by a certain strain of spore-forming bacillus and belong to cyclic peptides in chemical composition.

Basic measures for the prevention of external otitis:

1. Avoid trauma to the ear canal:

Do not use cotton swabs to clean the ears, as they can damage the skin and contribute to infection.

2. Prevent water from entering the ears:

Use earplugs when swimming and dry the ears thoroughly after swimming.

3. Clean the ears properly:

Use a soft towel or cotton pad to remove water and wax without going deep into the ear canal.

4. Do not use headphones that fit tightly:

Limit the use of vacuum headphones that prevent aeration of the ear canal.

5. Treat diseases in a timely manner:

Thoroughly treat upper respiratory tract infections that can lead to otitis.

6. Strengthen the immune system:

Lead a healthy lifestyle, eat right, exercise, and avoid hypothermia.

7. Avoid polluted water:

Swim only in proven and clean water bodies.

8. See a doctor at the first sign of symptoms:

If you experience pain, itching, discharge from the ear, or hearing loss, see a doctor for diagnosis and treatment.

Following these simple rules will help prevent the development of otitis externa and keep your ears healthy.

Conclusion. Although otitis externa has many causes, there are certain unified principles of examination and treatment that allow you to overcome the disease in most cases. However, otitis externa is an insidious disease that should not be neglected and must be treated actively, as the disease can have serious consequences.

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