TYPES, CAUSES AND TREATMENT METHODS OF MASTOIDITIS.

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Abstract: Mastoiditis is an infection of your mastoid process, or the large bone behind your ear. Middle ear infections cause most cases of mastoiditis. Healthcare providers treat mastoiditis with antibiotics. More serious cases require surgery. Mastoiditis was once a common, serious illness. Now, thanks to antibiotics and vaccinations, it’s considered a rare condition.

Key words: Mastoiditis, mastitis, squamitis, osteitis, petrositis, vestibulometry.

Mastoiditis (mastoiditis) - purulent inflammation of the mucous membrane and bone tissue of the mastoid. The disease develops as a complication of acute purulent otitis media and chronic otitis. The following forms of mastoiditis are distinguished: 1) primary mastoiditis - inflammation of mastoid cells that is not associated with the development of acute purulent otitis media; 2) secondary mastoiditis: a) simple mastoiditis developed in acute purulent otitis media, including vertex-neck (Betseld) mastoiditis; b) atypical mastoiditis - mastoiditis developed before the perforation of the eardrum and recurrent mastoiditis. Zygomatitis, squamitis and petrosites are special forms of mastoiditis. Mastoiditis often develops in the pneumatic structure of mast cells. Etiology. The development of mastoiditis is caused by microbes that provoked acute purulent otitis media (streptococcus, staphylococcus, pneumococci, intestinal and diphtheria bacilli, mycobacterium tuberculosis, filterable viruses, oral cavity spirochete, S. Pneumoniae, H. Influenzae, M. catarrhalis, S. pyogenes, S. aureus or mixed microflora). Pathogenesis. The following factors contribute to the spread of the inflammatory process to the cells of the mastoid barrier: 1) high virulence of the pathogen that causes inflammation; 2) weakness of general and local immunity of the body; 3) insufficient treatment of acute purulent otitis media and delay in paracentesis surgery; 4) pathological separation in the cells of the tympanic cavity and mastoid septum is not released into the external auditory canal; 5) diabetes, anemia, tuberculosis, kidney diseases, etc. Pathologoanatomical changes Pathologoanatomical changes developed in inflammation of the mastoid cyst depend on its clinical stages: 1) in the exudative stage of the disease, mucoperiosteum in the mastoid cells, that is, the mucus and mucoperiosteum of the mastoid cells (bone inflammation of the membrane develops. As a result of impaired blood circulation in the mucous membrane, redness and swelling, accumulation of serous, purulent and purulent exudate mixed with blood are observed in the cells of the mastoid tissue; 2) inflammation of bone tissue - osteitis develops during the alteration stage. The inflammatory process spreads to the bone barriers between the cells of the sucker-like tissue and erodes them; 3) in the stage of mastoid empyema, the bone barriers between the cells of the mastoid are eroded and a common space filled with purulent discharge is formed. The process of bone tissue erosion can spread to the dura mater of the brain in the area of the middle and back pits of the skull and lead to the

development of intracranial complications. Clinical signs. In the 2-3rd week of acute purulent otitis media, the patient's condition suddenly worsens, body temperature rises, headache, and inflammatory changes appear in the blood and urine. The area of the nipple is swollen and painful when palpated, the fold behind the ear is flattened, and the auricle bulges outward. The patient complains of swelling behind the ear, pain, discharge of pus from the ear, increased body temperature, ringing in the painful ear and low hearing, headache. In otoscopy, it is seen that a large amount of thick pus is flowing from the ear, consistent with a stroke; after the external auditory canal is cleaned, it soon fills up again with pus.

Sometimes pus can flow out not only through the hole in the eardrum, but also through the eroded posterior bony wall of the external auditory canal. An important otoscopic sign of mastoiditis is a noticeable hanging of the back-upper wall of the external auditory canal (Schwartz's sign). This sign occurs as a result of the inflammatory process developed in the cells of the mastoid septum, as a result of pressing the front wall of the mastoid septum and the entrance to the cave with pathological separation. In a number of cases, a fistula is formed in this area, and pus flows into the external auditory canal through the fistula and is an absolute sign of mastoiditis. In some cases, for example, when the opening of the tympanic membrane is closed, the drainage of pus from the tympanic cavity is disturbed, or the entrance to the septal cavity is closed, the pus from the patient's ear may stop. . Sometimes, as a result of the erosion of mast cells and bone tissue, pus accumulates under the periosteal membrane, leading to the development of a subperiosteal abscess; in this case, due to the swelling of the skin behind the ear, the fold behind the ear is flattened, and the auricle bulges forward. In addition, pus can spread on its own to the area of the outer wall of the antrum or to other areas. For example, when pus spreads from the inner surface of the apex of the mastoid to the fascia of the neck, the apex is neck (Betsold's) mastoiditis, when it spreads to the outer wall of the apex of the mastoid, it is Orleans. mastoiditis, when it spreads to the inner side of the biventricular muscle, it is defined as a deep abscess of the neck, that is, Mure's mastoiditis. When the inflammatory process spreads to the base of the cheekbone of the temporal bone, it is called zygomatitis, when it spreads to the temporal part, it is called squamitis, and when it spreads to the petrous part, it is called petrositis. the tumor spreads from the apex of the mastoid to the pubic bone area. Due to sharp pain when turning the head to the side, the patient bends the head to the inflamed side. Sometimes, as a result of the spread of pus from the neck cavity to the chest cavity, the patient may develop mediastenitis. In zygomatitis and squamitis, reddening of the skin of the inflamed area, swelling and local pain are observed. Three signs of Gradenio (purulent discharge from the ear, trigeminitis - severe pain spread along the trigeminal nerve fiber and partial paralysis or paralysis of the muscles supplied by the distal nerve fiber) are observed in petrositis. In case of mastoid inflammation, otoscopy often reveals reddening and swelling of the back upper part of the tympanic membrane.

In the development of latent mastoiditis, the age of the patient, the state of general and local immunity, the virulence of the microbe, the specific anatomical structure of the mast cells, and the mistakes made in the treatment are important. Such mastoiditis is often painless and almost always accompanied by inflammation and erosion of bone structures of the mastoid. Diagnosis is based on patient complaints, disease onset, anamnesis data, examination of the external ear, palpation, otoscopy, microotoscopy, acumetry, audiometry, vestibulometry, radiography, computer tomography, MRI, tympanopuncture, paracentesis, anthropuncture, clinical and bacteriological examinations. is placed. It is not difficult to make a diagnosis in late mastoiditis with clear clinical signs. In cases where the disease is accompanied by hidden, unclear symptoms, all its objective

symptoms are taken into account when making a diagnosis. In X-rays of the temporal bone according to Shumsky or Shuller, images of inflamed and healthy ear lobes are compared; on the inflamed side, the x-ray image shows that the air storage condition of the caverns and cells of the mastoid septum is reduced, the bone barriers between the cells are eroded, and a cavity filled with pus and inflammatory tumors is formed. it seems that If necessary, CT and MRI examinations are conducted, and their results are also taken into account when making a diagnosis.

Sometimes it is necessary to distinguish mastoiditis from the following diseases: 1) in inflammation of the lymph nodes behind the ear, pathological changes are not detected in the tympanic membrane, the tympanic cavity and the upper back wall of the external auditory canal, the patient's hearing ability does not change. 2) external auditory canal abscess, which has turned into an abscess, is accompanied by swelling behind the auricle. But the tympanic membrane does not change, the patient's hearing is preserved, and the ear pain increases when the auricle is pulled, when the earlobe is pressed, when the lower jaw bone moves, and when chewing. If in chipmunk, otoscopy reveals a narrowing of the tympanic part of the external auditory canal, in mastoiditis, it is observed that the bony part is narrowed and the upper back wall hangs down. In external auditory canal, the swelling area in the area of the mastoid septum leaves a fingerprint when pressed, and in mastoiditis, there is no fingerprint, but the swelling area hurts when pressed. 3) with phlegmon of the temporal bone area, the patient develops trismus and pathological changes in the oral cavity, the patient's hearing does not change, the hanging of the upper-back wall of the external auditory canal is not observed during otoscopy, the tympanic membrane does not change and there is no pus in the middle ear. 4) in deep phlegmon of the neck, no pathological changes are detected in the ear, the patient's hearing ability does not change, no pathological changes are detected in the cells of the sucker's barrier in the X-ray. 5) neuralgia of the small occipital nerve is accompanied by sharp pain and increased sensitivity of the skin behind the ear. The pain increases when the patient turns his head down or to the side; the pain is located between the flexors of the head and the trapezius muscles, that is, at the exit point of the cervical nerve fiber. The patient's body temperature is normal, no inflammatory pathological changes are detected in the blood. In otoscopy, it is determined that the tympanic membrane has not changed, and there are no changes in acumetry and audiometry examinations.

Treatment. A patient with mastoiditis is treated with conservative and surgical methods in the otorhinolaryngology department. Conservative treatment consists of etiopathogenetic and symptomatic measures, which are used locally and generally: 1) Medicines that constrict blood vessels in the nose while tilting the head back to the side in order to improve the function of the nasal cavity and auditory tube. drips; 2) warm compresses with semi-alcohol are applied to the ear area, the external auditory canal and the ear drum cavity are cleaned of purulent discharge, and medicinal solutions are injected into them through the eardrum; 3) Antibiotic therapy: depending on the patient's condition and microflora's sensitivity to antibiotics, one or two antibiotics are administered intramuscularly or intravenously. Antibiotics such as lincomycin, ceftriaxone or others dissolved in 0.5-1% novocaine and injected under the skin of the nipple area 1-2 times a day in a lymphotropic method give a positive result. 4) Calcium chloride, calcium gluconate, dimedrol, tavegil, suprastin, zyrtec, claritin, telfast (120-180 mg) tablets can be prescribed as hyposensitization measures; 5) As a hyposensitization, detoxification and anti-inflammatory agent, 1% calcium chloride solution is injected intravenously at the rate of 40-50 drops per minute (at the rate of 7-10 mg/kg for children, up to 400 ml for adults);

In cases where the above-mentioned conservative treatment measures do not give a positive result, one of the surgical operations to open the mastoid barrier cells (antrotomy, antromastoidotomy or mastoidectomy) is performed without delay. A patient with subperiosteal abscess, cervical mastoiditis, petrositis, zygomatitis, squamitis, and intracranial complications is urgently admitted to the hospital, and within the first 2-6 hours, antrotomy or antromastoidotomy is performed, if necessary, and posterior cranial cavities should be opened and inspected. The surgery to open and clean the cells and cavity of the mastoid is called antromastoidotomy, and in children under three years old, it is called antrotomy. Surgical removal of the mastoid along with its apex is called mastoidectomy. Sometimes it is necessary to open all the cells of the mastoid (periantral, perifascial, angular, apex, cheek, etc.) and take the entire mastoid apex. . This type of surgery is called an extended antromastoidectomy. During surgery, first, the apex, periantral, perifascial, and corner cells of the mastoid tumor are opened, and with the help of a sharp spoon, they are cleaned of eroded bone fragments, pus, and inflammatory tumors. Then the edges of the wound area on the bone are smoothed using a bone spoon. After the wound area is washed with an antiseptic solution and dried, a plug soaked in a hypertonic solution is placed on it and treated in an open manner.

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