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CHRONIC PURULENT OTITIS MEDIA IN CHILDREN

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Abstract

Chronic suppurative otitis media (CSOM) can occur in several variants. A more favorable form is mesotympanitis, in which there is isolated inflammation of the mucous membrane of the auditory tube, meso- and hypotympanum. In the structure of CSOM in children, mesotympanitis occupies a leading place and accounts for more than half of all cases of this disease. Another form, epitympanitis, which accounts for about 20% of CSOM cases, is characterized by a more severe course compared to mesotympanitis. With epitympanitis, the upper floor of the tympanic cavity (attic) and the mastoid process are predominantly affected, and with this form of CSOM, caries of the bone walls of the tympanic cavity, antrum, auditory ossicles necessarily occurs, cholesteatoma can form. Currently, there is no single tactic in the comprehensive rehabilitation of children with congenital cleft lip and palate (CCLP). In domestic literature and in practical healthcare, due attention is not paid to the state of the ENT organs in children with congenital cleft lip and palate and, in particular, middle ear pathology. Anatomical and functional changes accompanying congenital cleft lip and palate lead to both acute and chronic diseases of the ENT organs. Communication of the oral cavity and nasal cavity in the area of the defect disrupts the act of sucking, swallowing, breathing - while the inhaled air is not warmed and not purified, this leads to inflammatory changes in the mucous membrane of the nose, nasopharynx and middle ear. In children with congenital cleft lip and palate, a high incidence of middle ear diseases, both acute and chronic, is noted. The causes of otitis media can be very diverse: acute respiratory and viral infections, deformation of the nose and nasal septum, adenoiditis, chronic tonsillitis, inflammation of the paranasal sinuses, vasomotor rhinitis, etc., often arising as a result of mixed oral-nasal breathing, food entering from the oral cavity into the nasal cavity and nasopharynx. As a result of mixed oral-nasal breathing, food entering from the oral cavity into the nasal cavity and nasopharynx, conditions are created for the throwing of secretions from the nasopharynx into the auditory tube, which can lead to the development of mucoceliary insufficiency. Normally, the nasopharynx is separated from the oropharynx by the soft palate during swallowing and is therefore less susceptible to bacterial contamination (with the exception of acute respiratory viral infections, adenoiditis, sinusitis). When the integrity of the soft palate is compromised or its mobility is limited (in cases of CCLP), conditions for infection of the nasopharynx and middle ear are created. The leading factor in the pathogenesis of otitis media is dysfunction of the auditory tube, which in children with CCLP can be caused by the following reasons: pathological attachment of the muscle that lifts the soft palate (with CCLP, this muscle is woven into the tendon of the muscle that tenses the soft palate, thereby counteracting its normal function), partial attachment of the muscle that tenses the soft palate to the lateral plate of the auditory tube (ST), underdevelopment of the cartilage of the auditory tube, lack of fusion of muscles in the palatine

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aponeurosis, and, as a consequence, a decrease in muscle mass and muscle traction for normal functioning of the soft palate, muscle atrophy, replacement of part of the fibers with connective or fatty tissue. An additional reason is the long-term tenseness of the muscles, which leads to loss of their elasticity, trophic disorders, and, as a consequence, the development of degenerative processes.

Local immunity of the oral cavity in children with CCLP is significantly reduced, the level of enterotoxic bacteria along the cleft is almost 6 times higher than in children without pathology. Summarizing the above, we can state that at present there are many questions about the problem of hearing impairment in children with CCLP, namely: how often does conductive hearing loss occur in children with CCLP, does its occurrence depend on the type of cleft and the timing of primary surgical rehabilitation (cheilouranoplasty), as well as age and gender. Early prevention, diagnosis, timely treatment and high-quality dispensary observation of children with CCLP are undoubtedly relevant. An attempt to solve these issues will prevent the development of persistent hearing impairment in patients with CCLP. Thus, the conducted research has not only important scientific but also great practical significance, despite the many works devoted to the problem of treating children with congenital cataract, the presence of a wide variety of structures, methods and forms of rehabilitation, the issues of systematization and methodology of approaches to solving such a complex problem associated with hearing impairment remain relevant.

Keywords: Epitympanitis, infection control, handwashing, sanitation, health education, chronic suppurative otitis.

INTRODUCTION

The aim of the work: increasing the effectiveness of treatment for children suffering from chronic purulent otitis media by developing a treatment and diagnostic algorithm, a new effective method of conservative treatment of the inflammatory process in the middle ear, as well as substantiating prognostic criteria for the course and outcome of this disease.

Research methods. A total of 139 patients (N) suffering from various forms of chronic suppurative otitis media were examined and treated, with the condition and function of 159 ears (p) being examined. These patients were allocated to the main group. The control group consisted of 86 patients (N), (101 ears, p), also suffering from various forms of CSOM - their condition was assessed based on archived case histories. The third group included 60 healthy children. Examination of healthy children of the same age was necessary to determine the normative data of immune and biochemical parameters in biological fluids of the body for comparison with those in patients with various forms of CSOM.

Results. We assessed the immediate clinical, anatomical and functional results of the sanitizing radical general cavity surgery on average after 2 months.

They were as follows: complete epidermization of the postoperative cavity occurred in 7 patients. The remaining 2 patients developed the so-called "trepanation cavity disease" - there was a moderate amount of mucopurulent discharge in the cavity, and excessive granulation was

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observed. This picture, despite all the measures and procedures (removal of excess granulation with a curette, cauterization with a 20% solution of silver nitrate, etc.),
was observed up to 8 months after the surgery, and only after 1 year they managed to achieve complete epidermization of the cavity. In general, we assessed the immediate clinical and anatomical results as "good". We assessed the immediate functional results of surgical treatment of patients as "satisfactory", since the patients' hearing was reduced before the operation, and after it it even worsened somewhat (the average hearing threshold for air conduction was 41.2 ± 3.6 dB and 48.4 ± 4.8 dB, respectively). Remote (after 2 years) clinical, anatomical and functional results of surgical treatment of these patients remained the same. There was no recurrence of cholesteatoma in any patient. In the remaining 40 cases, we performed separate atticoanthrotomy with one-stage tympanoplasty ("tympanomastoidectomy" in foreign terminology). We assessed the immediate clinical and anatomical results of the operation 2 months after its implementation and assessed them as "good", since by this time the retroauricular wound had healed in all patients, and the tympanic flap did not take root in all patients due to the fact that with epimesotympanitis the defect of the tympanic membrane was subtotal. Thus, only in 31 (77.5%) cases was its complete engraftment observed, and in the remaining 9 cases (these were patients with epimesotympanitis) it took root only partially. Of these 9 cases, in 6 there remained a central perforation of the neotympanic flap with a diameter of about 3 mm, and in the other 3 - a marginal one (its larger size was 4 mm). The tympanic flap in all cases was pink, thickened due to edema. There was no discharge in the external auditory canal. The mucous membrane of the tympanic cavity visible through the perforation (in 9 cases with its presence) was pink, by appearance - of normal thickness. The immediate functional results in epitympanitis were assessed by us as "excellent", and in epimesotympanitis they were worse. All patients with cholesteatoma 1 year after the first operation were reoperated, the results of which were successful (residual or recurrent cholesteatoma was not detected), and 9 patients with perforation of the neotympaBased on the analysis of the results of clinical and audiological examination of 100 children with congenital cleft lip and palate, who were at different stages of surgical rehabilitation, it follows that this congenital pathology should be attributed to the risk factors for hearing loss and deafness, since we found hearing impairment in 73% of children. Exudative otitis media was diagnosed in 62% of children, and other pathologies of the organ of hearing were found in 11%. The incidence of conductive hearing loss caused by exudative otitis media does not depend on the severity of congenital cleft lip and palate. Early detection of exudative otitis media contributes to the successful treatment of this disease. According to our study, uranoplasty is a therapeutic and preventive factor in the development of exudative otitis media. Its early implementation allowed us to reduce the development of conductive hearing loss in 43% of children with congenital cleft lip and palate. In 62% of children, hearing was completely restored to normal after sanitation of the upper respiratory tract, which confirms the importance of this treatment method for middle ear pathology in patients with congenital cleft lip and palate. We noted the high efficiency of conservative treatment of exudative otitis media in 51% of children with congenital cleft lip and palate only at stages I and II of the disease. Tympanostomy in children with congenital cleft lip and palate can be performed both before and after uranoplasty in the presence of exudative otitis media. The tactics of treating children with exudative otitis media and congenital cleft lip and

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palate are similar to the tactics of treating this disease in patients without maxillofacial pathology. Prevention of persistent hearing loss in children with congenital cleft lip and palate can be successful only in the case of coordinated actions of an audiologist and a maxillofacial surgeon. Information about children born with congenital cleft lip and palate pathology should be sent from the maternity hospital to audiology centers or offices, since CCLP should be considered as a risk factor for hearing loss and deafness. The conducted data analysis showed that the most common cause of hearing loss in patients with CCLP is exudative otitis media. We recommend the following algorithm for managing a patient with congenital cleft lip and palate and exudative otitis media.

Newborns from 0-1 month. Volume of medical care: Registration (entering information about the child and his parents into the database, creating a genetic "register" of the child, educational conversation with parents and relatives). Examination by specialists: micropediatrician, pediatrician, orthodontist, maxillofacial surgeon, audiologist-otolaryngologist. Other specialists at the place of residence in accordance with the plan of dispensary observation.

Drawing up an algorithm for comprehensive rehabilitation. In the presence of concomitant pathology, observation by specialists. Beginning of orthodontic treatment. Infants up to 1 year. Scope of medical care. Orthodontic treatment. Somatic recovery of the child. Clinical examination by an audiologist-otolaryngologist, acoustic impedancemetry, examination of the auditory function using objective methods: KSVGT, VOAE. If persistent dysfunction of the auditory tube or ESO is detected, uranoplasty (veloplasty) is recommended as the first stage; in cases where palate plastic surgery is postponed for some reason, it is advisable to perform tympanostomy before uranoplasty. In the presence of concomitant pathology. Observation and treatment by specialists. Children aged 1-3 years. Scope of medical care: Somatic recovery of the child. Orthodontic treatment. Speech therapy training. Surgical treatment of VRLP (veloplasty, uranoplasty). Examination by an audiologist-otolaryngologist: (otomicroscopy, acoustic impedancemetry, registration of VOAE, ABR). If persistent dysfunction of the auditory tube or ESO is detected, the upper respiratory tract is sanitized, and an audiological check is performed after a month. In the absence of positive hearing dynamics, tympanostomy is performed before or after uranoplasty.

Preschool group of children aged 3-6 years and older. Somatic health improvement of the child. Orthodontic treatment. Speech therapy training. Reconstructive surgeries velopharyngoplasty, pharyngoplasty, uranostaphylophringoplasty, elimination of velopharyngeal insufficiency. Dynamic observation by an audiologist-otolaryngologist (audiological examination); if exudative otitis media is detected, a course of conservative therapy or surgical treatment, depending on the stage of the EOM.nic membrane also underwent retympanoplasty 1 year later with a positive result.

Conclusions.

1. Ear diseases in the structure of ENT pathologists and hospitalized sick children according to the "Department of ENT Pathology of Children" amounted to 16% against 9.9%, which indicates a 1.6-fold increase in morbidity. The proportion of chronic purulent otitis media remained

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unchanged during this period, which indicates continuity in the work of outpatient clinics and hospitals in Uzbekistan.

2. The auditory function in children with chronic purulent otitis media is characterized by conductive hearing loss in mesotympanitis and mixed hearing loss with auditory thresholds by bone conduction of 5.0 ± 0.6 dB and 10.0 ± 1.8 dB in epi- and epimesotympanitis, respectively, with their long-term course, 100% speech intelligibility without the phenomenon of accelerated increase in volume; while their vestibular function is not affected.

3. In patients with chronic purulent otitis media with mesotympanitis, the ventilation (grades III-IV - in 70.9%) and drainage (grades II-III - in 70.9%) functions of the auditory tube are moderately impaired, with epi- and epimesotympanitis they are altered to a greater extent; while a correlation dependence of the state of the functions of the auditory tube was revealed. 4. In children with chronic purulent otitis media, phagocytosis in the inflammatory focus is significantly reduced with maladaptive types of the initial vegetative tone (vagotonia, sympathicotonia, dystonia), and the relative number of T-lymphocytes as an indicator of systemic immunity changes insignificantly.

5. The most informative method for diagnosing chronic purulent otitis media is computed tomography of the temporal bones, since it reveals not only the degree of carious destruction of the bone structures of the middle ear, but also the presence of soft tissue formations in its cavities (granulations, polyps, cholesteatoma masses), damage or dislocation of the auditory ossicles, which allows planning the extent of surgical intervention, predicting the possible development of life-threatening intracranial complications.

6. Risk factors for the development of chronic purulent otitis media are: 1) the presence of several episodes of acute purulent otitis media in the younger age period; 2) disruption of the functional state of the auditory tube; 3) disruption of the initial vegetative tone, vegetative reactivity, vegetative support of life (adaptive-compensatory abilities of the body), i.e. the presence of vegetative imbalance in children; 4) a decrease in the indicators of the state of innate immunity (the level of phagocytic activity, the content of SIg A in tissues); 5) disruption of the state of the adaptive immune response, a decrease in the relative number of T-lymphocytes in the peripheral blood.

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