

## THE ROLE OF CHRONIC ACTIVE HEPATITIS IN CHILDREN IN THE CLINICAL COURSE OF ACUTE OTITIS MEDIA

*Rakhmatov A.A., Narzullaev N.U*

Bukhara State Medical Institute

✓ *Resume*

*Functional status of the liver was studied in 56 children with chronic active hepatitis. Changes in the functional state of the middle ear are more pronounced when acute otitis media in children takes place against the background of chronic active hepatitis.*

*When acute otitis media in children develops on the background of chronic active hepatitis, the clinical course of acute otitis media is peculiar, significantly severe and long lasting. After the addition of hepatoprotectants and immunosuppressive drugs to the standard treatment of acute otitis media, which developed against the background of chronic active hepatitis in children, dynamic changes were observed in sick children, and the effectiveness of treatment was improved.*

*Key words: children, acute otitis media, chronic active hepatitis*

## БОЛАЛАРДА ЎТКИР ЎРТА ОТИТНИНГ КЛИНИК КЕЧИМИДА СУРУНКАЛИ АКТИВ ГЕПАТИТНИНГ АҲАМИЯТИ

*Рахматов А.А., Нарзуллаев Н.У.*

Бухоро давлат тиббиёт институти

✓ *Резюме*

*56 нафар сурункали актив гепатит билан касалланган бемор болаларда жигарнинг функционал ҳолати ўрганилди. Болаларда ўткир ўрта отит сурункали актив гепатит фонида кечганда ўрта қулоқнинг функционал ҳолатларидаги ўзгаришлар яққолроқ намоён бўлади. Текиширувдаги бемор болаларнинг қонидаги биохимик таҳлиллар натижасига кўра АЛТ активлиги ошиб борган сари бемор болалардаги ўткир ўрта отитнинг клиник белгилар ҳам кучайиб борганлиги аниқланди. Болаларда ўткир ўрта отит сурункали актив гепатит фонида ривожланганида ўткир ўрта отитнинг клиник кечиши ўзига хос бўлиб, сезиларли даражада оғир ва узок давом этди. Болаларда сурункали актив гепатит фонида ривожланган ўткир ўрта отитни стандарт даволашга гепатопротекторлар ҳамда иммунитетни мустаҳкамловчи дори воситалари қўшилгандан сўнг бемор болаларда динамик ўзгаришлар кузатилиб, даволаш самарадорлиги яхшиланди.*

*Калит сўзлар: болалар, ўткир ўрта отит, сурункали актив гепатит*

## РОЛЬ ХРОНИЧЕСКОГО АКТИВНОГО ГЕПАТИТА У ДЕТЕЙ В КЛИНИЧЕСКОМ ТЕЧЕНИИ ОСТРОГО СРЕДНЕГО ОТИТА

*Рахматов А.А., Нарзуллаев Н.У.*

Бухарский государственный медицинский институт

✓ *Резюме*

*Функциональное состояние печени изучено у 56 детей с хроническим активным гепатитом. Изменения функционального состояния среднего уха более выражены, когда острый средний отит у детей протекает на фоне хронического активного гепатита.*

*Когда острый средний отит у детей развивается на фоне хронического активного гепатита, клиническое течение острого среднего отита своеобразно, значительно тяжелее и длительно. После добавления к стандартному лечению острого среднего отита, развившегося на фоне хронического активного гепатита у детей, гепатопротекторов и иммунодепрессантов, у больных детей наблюдались динамические изменения, повышалась эффективность лечения.*

*Ключевые слова: дети, острый средний отит, хронический активный гепатит.*

## Relevance

The problem of treatment of acute otitis media (OOM) against the background of chronic active hepatitis (SAG) in children is one of the most pressing problems of otorhinolaryngology [1], attracting the attention of researchers and practitioners. Despite the high achievements of world science, the treatment of this pathology in children remains one of the unresolved issues of modern medicine.

Despite great advances in medicine, the incidence of other somatic diseases of the upper respiratory tract in children has been increasing rapidly in the last 10 years [3,11,15]. Studies show that in the early twentieth century, the prevalence of upper respiratory diseases in Europe among the population was 0.82%, in the 90s - 4.8%, and in 2010 - from 9.6% to 14.2%. According to the World Health Organization, to date, this figure ranges from 10% to 25% in different countries, and in some countries up to 50% of the population. - place [6,7,14]. According to national statistics, acute otitis media accounts for 32.7% of all ear diseases in children in Uzbekistan [10]. While these diseases do not pose a threat to human life, they do lead to a deterioration in the quality of life of patients. However, despite numerous studies and accumulated clinical experience, only a few studies have highlighted the features of the CAO and its course in the background of SAG. There are few data explaining the different range of clinical manifestations of toxicosis and excitosis in children of early childhood with SLE on the background of SAG, no clear criteria for assessing its severity and predicting its course have been developed [4,5]. There is conflicting information in the literature about the state of immune protection and methods of immunocorrection in children with SAG on the background of SAG, and the relationship between changes in immune status depending on the degree of intoxication in SAG is not widely covered.

The principles of complex and differentiated correction of the immune system in the pathology studied in children have not yet been developed in detail. Therefore, it is necessary to comprehensively study the diagnosis of COPD in the background of SAG, the characteristics of the clinical course and the state of cellular and humoral immunity. It is known that chronic active hepatitis affects all organs and systems of the body. These include the digestive system, nervous system, cardiovascular system, ENT organs, and immune system. One of the most pressing problems is acute inflammation of the middle ear, which occurs in these children on the background of chronic active hepatitis [8,9,12]. According to

the World Health Organization, 30,000 people die each year from chronic active hepatitis and its complications. Chronic active hepatitis also ranks 8th in mortality [2,13].

In children, acute otitis media often (88-98% of patients) occurs against the background of other somatic diseases in the body. The organic link between acute otitis media and chronic active hepatitis is of interest to any researcher. It is known that chronic active hepatitis is a multidisciplinary disease that affects the activity of several organs, causing existing chronic diseases in the body or, in some cases, the emergence of certain diseases. The organic link between acute otitis media and chronic active hepatitis in children is of interest to any researcher. Based on the above, it can be said that when acute otitis media in children with hepatic dysfunction, timely diagnosis, development and justification of the optimal treatment regimen is an urgent task for the practical health care system.

**The aim of the research:** to assess the role of chronic active hepatitis in the clinical course of acute otitis media in children

## Materials and methods

The study was conducted in 56 patients hospitalized in the hepatitis department of the Bukhara Regional Children's Multidisciplinary Medical Center and the Regional Children's Infectious Diseases Hospital.

We studied all patients in 2 groups. In group I, 34 patients with acute otitis media (60.7%) and 22 patients with acute otitis media (39.3%) developed against the background of chronic active hepatitis.

The diagnosis of acute otitis media was based on the complaints of sick children, clinical signs, results of otoscopic and endoscopic examination, anamnestic data, peripheral blood counts and the amount of eosinophils in the nasal passages, radiological examination of the nasal cavity. The condition of the liver was assessed based on biochemical analysis of the blood, the amount of blood pigments (total, bound and unbound bilirubin) and enzymes (ALT-ACT).

Statistical processing of the survey results was performed using general statistical methods. The data obtained was implemented on a personal computer, Intel (R) Core (TM) 2 Quad CPU and OS Windows7. The study used STATISTICA 6.0 software.

## Results and analysis

When analyzing the timing of the onset of primary clinical symptoms of acute otitis media in children on the background of chronic active

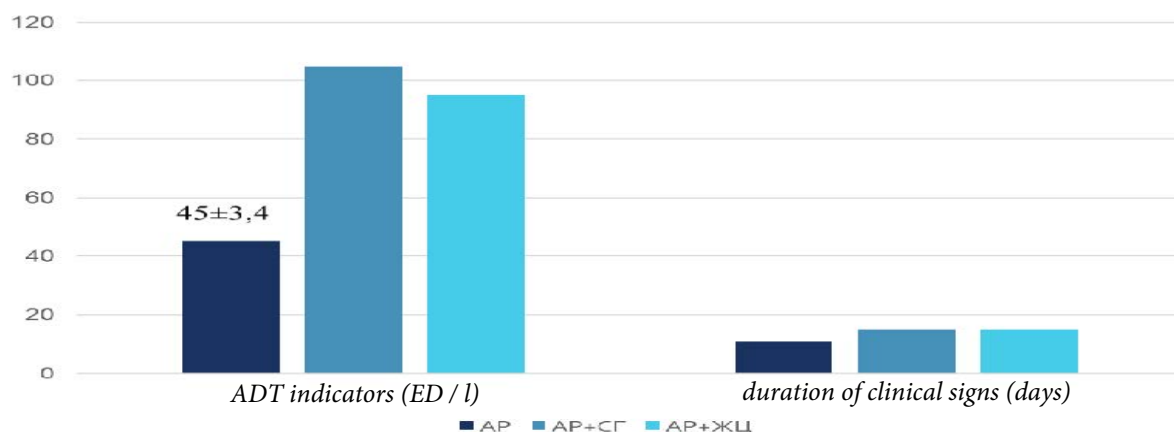
hepatitis, 80% (45) patients had symptoms of acute otitis media within 7 months after the onset of the pathological process in the liver, 14.8% of patients had symptoms of acute otitis media. the pathological process occurred after 3 months, the remaining 5.2% (6 people) were found to have clinical signs of acute inflammation of the middle ear in sick children at 7 months and beyond. When analyzing the timing of the onset of primary clinical signs of acute otitis media in children by age group, it was found that in children aged 3 to 7 years (29.5%), the clinical symptoms of OOO occurred before 3 days. The onset of symptoms of middle ear inflammation over a period of 3 to 7 days was most common in the 12- to 18-year-old age group (90.6%) and in the 7- to 12-year-old age group (86.4%). Late onset of OOO symptoms was most frequently reported in the 1 age group (8.8% of cases). Thus, the appearance of primary symptoms of otitis media in the age group of 1 year is manifested in the form of pain in the ear

area, fever, instability, sleep disturbances, and so on. In age groups 2 and 3, clinical signs of middle ear inflammation appear after 3 days.

In a comparative analysis of the results of microbiological research, the most common microflora in both groups was St. Aureus was present, with 56.2% of cases in the main group and 43.8% in the control group, respectively. Citrobacterium is 9.4% in the main group, but its relative share in the control group is much higher - 12.4%. The causative agent of the pathological process in the middle ear was Esherihi coli in 15.6% of cases in the main group and in 9.4% of cases in the comparative group, the remaining identified microorganisms did not differ significantly in percentage in the groups.

According to the results of biochemical analysis of peripheral blood of controlled children, the pathological process in the middle ear in patients increased as ALT activity increased (Figure №1).

**Figure №1. Duration of clinical signs of allergic rhinitis according to the level of ALT activity (before treatment)**

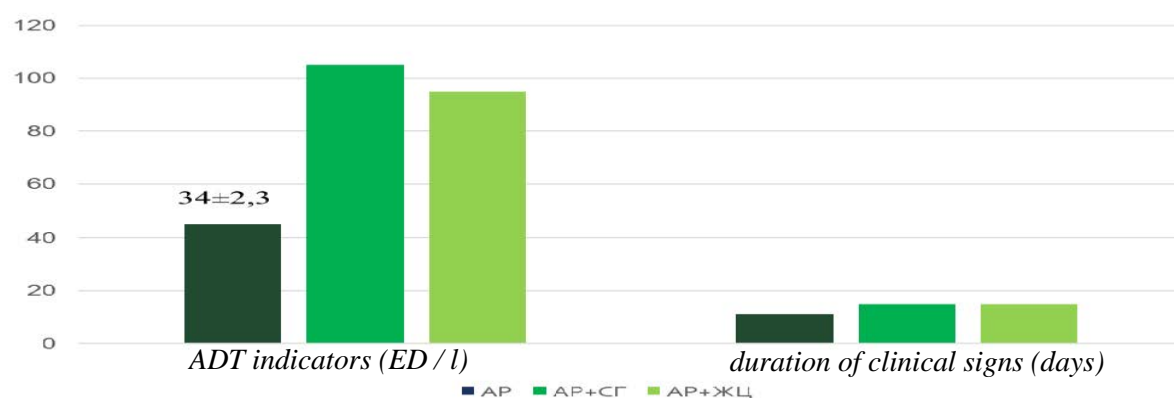


*Note: the difference from the control group ( $r < 0.05$ ,  $r > 0.001$ ).*

Dynamic changes in ALT activity level and dynamic indicators of clinical signs of acute otitis media (after treatment) were observed after the addition of hepatoprotectants to standard treatment of acute otitis media, i.e. ALT values in acute otitis media were  $34 \pm 2.3$  ED / l and duration of clinical

symptoms was 5-7 days. formed. When acute otitis media was associated with chronic active hepatitis, ALT values were  $98 \pm 2.6$  ED / l, and the duration of clinical signs was 10–12 days. As a result, the effectiveness of treatment was improved, and the hospital stay of sick children was reduced to 2 days.

**Figure №2. Dynamic indicators of ALT activity level and clinical signs of acute otitis media (after treatment)**



*Note: the difference from the control group ( $r < 0.05$ ,  $r > 0.001$ ).*

Based on the above, it can be said that the treatment of concomitant liver diseases is important in the pathogenetic treatment of acute otitis media. Recommendation of hepatoprotective and enzyme drugs is the key in preventing the development of the pathological ring of the pathological process in the middle ear and the development of various local clinical signs. Hepatoprotectors prevent cell membrane damage and stimulate hepatocyte regeneration, increase the resistance of liver cells to pathological effects, improve its detoxification function by activating the activity of the enzyme system (cytochrome P450 and other microsomal enzymes), as well as help restore liver function in various pathological conditions.

### Conclusion

Thus, 25% of hospitalized patients with a diagnosis of acute otitis media were diagnosed with chronic diffuse liver disease, and 31% of patients treated with chronic diffuse liver disease were diagnosed with acute otitis media. When acute otitis media in children took place against the background of chronic active disease, the clinical course of acute otitis media in 33% of patients was peculiar, significantly severe and long-lasting. Dynamic changes were observed after the addition of hepatoprotectants to the standard treatment of acute otitis media, i.e. ALT values in acute otitis media were  $34 \pm 2.3$  ED / l, the duration of clinical symptoms was 5-7 days, treatment effectiveness was improved, hospitalization was reduced to 2 days. Assessment of the functional status of the liver, its correction if necessary is an important step in the diagnosis and treatment of acute otitis media in children.

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