DYNAMICS OF FEATURES OF ETIOLOGY, CLINICAL COURSE AND STRUCTURE OF PURULENT-INFLAMMATORY DISEASES IN CHILDREN

Gafurova N.S.
Tashkent Pediatric Medical Institute
https://doi.org/10.5281/zenodo.10969547

Abstract. *Frequency, structure and clinical displays Purulent flammatory diseases at 112 children at the age from 0 till 15 years were on treatment in branch of the second Tashkent children's surgical hospital and addressed for out-patient the help in a polyclinic are studied. Now a number of aspects Pyoinflammatory diseases at children's age requires revision owing to the changed mutual relations between the microbic activator and an organism of the child. Researches testify to change of specific structure of activators Pyoinflammatory diseases in children's age. It is necessary to underline, that absence is connected with plurality of factors of pathogenicity nosologic the specificity, infections caused by is conditional-pathogenic microorganisms that distinguishes them from the majority of pathogenic bacteria. As a rule, standard treatment for most purulent-inflammatory diseases of the musculoskeletal system involves surgical intervention followed by the application of antibacterial and symptomatic therapy. However, correction of immune-metabolic disorders using medications and physiotherapeutic methods is not always employed.The authors also claim that the treatment of this group of patients should be based on a comprehensive approach involving both surgical interventions and therapeutic measures. Surgical methods for treating purulent-inflammatory diseases of the musculoskeletal system dominate and consist of the following main components: primary or secondary surgical treatment of the purulent focus (with removal of the causative tooth of odontogenic origin if applicable) during adequate wound drainage. Special attention is paid to the surgical approach, which should provide the shortest possible route to the purulent focus while also creating adequate conditions for exudate evacuation without forming sinuses and pockets. The therapeutic regimen is divided into general measures, including antibacterial, desensitizing, immunostimulating, detoxifying, and other treatment methods, and local treatment, which involves ensuring adequate drainage of purulent exudate from the focus of inflammation, suppression of the activity of pathogenic microorganisms, maintenance of tissue necrosis, reduction of interstitial pressure, normalization of microcirculation, and acceleration of regeneration processes. It should be noted that currently, most researchers and clinicians adhere to the concept of therapeutic measures that take into account the stages of the purulent-inflammatory process and the pathophysiological processes occurring in the purulent focus.*

Keywords: *purulent flammatory diseases, GNB, GPB, forms of bacteria, pathogens, microflora.*

The factors influencing the clinical course ofPurulent inflammatory diseases in children are: firstly, the evolution of pathogens, with the expansion of the spectrum of microflora and changes in its biological properties, and secondly, the increase in the layer of immunodeficient children who are predisposed to the development of PID.

The most significant negative trends in the health of children include: a progressive increase in chronic forms of somatic pathology and congenital malformations, an increase in the frequency of environmentally determined syndromes and diseases: maladaptation, chemical and radiation hypersensitivity, environmental intoxication, chronic diseases of a polygenic nature [1, 3, 8] . Against this background, there is an increasing significance of purulent-inflammatory diseases (PIDs) in children, especially at an early age [5, 6]. Thus, the frequency of this pathology has virtually no tendency to decrease, despite the expansion of the range of antibacterial drugs used, improvement of methods of caring for newborns and other organizational and treatment and preventive measures [2, 4, 7].

Purpose of the study: To study the frequency, structure and clinical manifestations of headaches in children of early preschool and school age.

Materials and methods.

The frequency, structure and clinical manifestations of hepatitis PID were studied in 112 children aged 0 to 15 years who were treated at the 2nd Tashkent Children's Surgical Hospital and who sought outpatient care at the clinic. The study of pathogens of gastrointestinal infections and the immune status of patients was carried out using bacteriological and immunological methods [4].

Calculation of the frequency of hepatitis PID in patients was carried out in intensive rates (per 1000 children of the corresponding age). The obtained data were processed by statistical methods of variation statistics with the calculation of the mean, error of the mean and Fisher-Student reliability.

Results and discussion

Based on the studies conducted, an increase in the frequency of hepatitis in children was established by 26.8% ($p<0.001$). At the same time, there is a decrease in the number of newborns and infants with PID by 9.5 and 9.9%, respectively, and an increase in the number of children over 3 years of age by 22.6% ($p<0.01$). A significant increase in cellulitis by 90.0%, furunculosis by 85.4%, felon by 62.4%, mastitis by 20.3%, paraproctitis by 33.6% was revealed.

At the same time, there was a decrease in the frequency of lymphadenitis and adenophlegmon by 33.3%, abscesses and phlegmon by 44.4% ($p <0.05$).

In the process of wound healing, there is a tendency for exudative phenomena to decrease and alteration to prevail, which causes slow cleansing of a purulent wound.

The data obtained indicate an increase in the frequency of inflammatory-infiltrative and a decrease in abscess forms of soft tissue venous lesions.

Qualitative and quantitative changes in the gastrointestinal tract of the osteoarticular system (osteomyelitis, arthritis) were established. An increase in the frequency of this pathology among infants was revealed by 65.6% ($p<0.001$), among newborns - by 112.4% ($p<0.001$). In the structure of PID of newborns, the share of these diseases increased to 18.0%. At the same time, the frequency of osteomyelitis and arthritis developing against the background of somatic pathology (dysbacteriosis, birth traumatic brain injury, encephalopathy, etc.) has increased.

Modern features of PID of bones and joints in newborns include: 1) earlier onset of the disease (1-2 weeks of life); 2) reducing the severity of the pathological process; 3) loss of a pronounced exudative nature by the inflammatory process in the focus and acquisition of the properties of productive inflammation; 4) increase in the incidence of primary arthritis; 5) reducing the threat of death in infants in the acute period; 6) an increase in the likelihood of developing

complications in the long term. There is an increase in the number of premature infants with osteomyelitis and arthritis up to 22.6% in the structure of all newborns with PID.

The features of this pathology in premature infants include: 1) the prevalence of gram-negative bacteria (GNB) among the causative agents of the disease; 2) asymptomatic course; 3) low probability of abscess formation; 4) low information content of traditional laboratory tests. There was a decrease in the incidence of acute hematogenic osteomyelitis in children over 3 years of age by 38.9% ($p<0.001$). The lesions of short, flat and spongy bones are 85.0% more common ($p<0.001$). More often there are previously atypical localizations of the focus of inflammation in the tubular bones (diaphysis, epiphysis). The clinical picture of hematogenic osteomyelitis becomes less clear. The dependence of the severity of clinical manifestations on the duration of the disease is lost. Among the symptoms of the disease, only local pain and moderate dysfunction of the limb are possible. The number of children with primary chronic osteomyelitis increased by 7.8 times ($p<0.001$). At the same time, there is often a low-manifest and atypical course. Chronic recurrent multifocal osteomyelitis, characterized by a gradual onset, multiple bone foci, a long, recurrent course, lack of abscess and the formation of sequesters, began to be diagnosed.

Due to the peculiarities of the clinical course, the diagnosis of hematogenic osteomyelitis, especially subacute and PCO, currently presents certain difficulties due to the polymorphism of the course and the complexity of differential diagnosis.

The study of the composition of PID pathogens in children revealed a slight decrease in the etiological significance of Staphylococcus aureus by 1.4 times and coagulazo-negative staphylococci (COS) by 3 times ($p<0.05$). At the same time, there was an increase in the frequency of release in the monoculture of streptococcus, enterobacteria, Pseudomonas aeruginosa and non-fermenting GOBs. At the same time, there is an increase in the frequency of associations of Staphylococcus aureus and enterobacteria, as well as the disappearance of associations of aureus and coagulazonegative staphylococci ($p<0.01$).

Attention is drawn to the appearance of fungi in association with Staphylococcus aureus and pyogenic streptococcus as pathogens. The importance of involutional forms of bacteria (L-forms) that can persist in the body for a long time has increased.

Cases of dysbiosis have increased, especially in young children. At the same time, there is a decrease in the population level of obligate representatives of normal microflora (bifidobacillin, lactobacillus, bacteroids, etc.), an increase in the frequency and concentration of representatives of its optional part - GOB, in particular, altered E. coli, klebsiella, pseudomonad, as well as hemolytic staphylococci and the appearance of unusual species of bacteria for this biotope with various pathogenic factors.

An important feature of PID pathogens in children in the modern period is the increase in the frequency of isolation of resistant variants of bacteria to antibiotics and antiseptics.

Immunological studies have established a decrease in the migration ability of neutrophils in children with HVZ. There was a significant decrease in indicators for all tests for assessing the functional activity of neutrophils in children with mixed microflora in inflammatory foci, compared to patients who have one type of pathogen.

Currently, a number of aspects of PID in childhood need to be reviewed due to the changed relationship between the microbial pathogen and the child's body. Studies indicate a change in the species composition of PID pathogens in childhood [7]. The evolution of PID pathogens is characterized by a decrease in the etiological significance of staphylococci, an increase in the role

of GOB, streptococci and fungi. The importance of adaptive, involutional forms of bacteria (L-forms, protoplasts, spheroplasts) that can persist in the body for a long time, causing a subacute and chronic course of PID [6] increases. An important factor contributing to the emergence of PID is the development of dysbiosis in children, which leads not only to an increase in the possibility of infection of the macroorganism with so-called "official" pathogens, but also to representatives of the optional and obligate part of the normal microflora. These microorganisms can cause disease with reduced immunity, and therefore they can be attributed to opportunistic microorganisms. Even such "apatogenic" representatives of normal microflora as bifidobacteria and lactobacilli can cause various forms of local and generalized infections in children with secondary immunodeficiencies [7]. It should be emphasized that the multiplicity of pathogenicity factors is associated with the lack of nosological specificity caused by opportunistic microorganisms of infections, which distinguishes them from most pathogenic bacteria [7, 9].

Conclusions

1. Qualitative and quantitative changes in the PID of the osteoarticular system (osteomyelitis, arthritis) have been established. An increase in the frequency of this pathology was revealed among infants and among newborns. In the structure of PID of newborns, the share of these diseases increased to 18.0%.

2. The evolution of PID pathogens is characterized by a decrease in the etiological significance of staphylococci, an increase in the role of GOB, streptococci and fungi.

3. An important factor contributing to the emergence of PID is the development of dysbiosis in children, which leads not only to an increase in the possibility of infection of the macroorganism with so-called "official" pathogens, but also to representatives of the optional and obligate part of the normal microflora.

4. When forming new treatment and diagnostic programs, it is advisable to take into account the modern features of PID in children.

5. Knowledge of the modern features of PID will allow the development of scientifically based programs for the diagnosis and treatment of this pathology and will contribute to improving the health of the children's population.

REFERENCES

1. Аксенова, В.А., Приймак, А.А., Пучков, К.Г. Туберкулез у детей в современных условиях (вопросы эпидемиологии и раннего выявления) //Российский вестник перинатологии и педиатрии. - 1994. - № 5. - С.11-13.
2. Баранов, А.А. Состояние здоровья детей на рубеже веков: проблемы и решения //Проблемы туберкулеза. - 2001. - № 1. - С.3-9.
3. Вельтищев, Ю.Е. Экопатология детского возраста //Педиатрия. - 1995. - № 4. - С.26-33.
4. Зафранская, М.М., Абаев, Ю.К., Ерофеенко, Н.П., Сапожникова, Ю.А. Активационно-индуцированный апоптоз лимфоцитов при хирургической инфекции у детей //Белорусский медицинский журнал. – 2005. – № 1. – С.47 – 49.
5. Кузьмина, Н.Н. Ревматизм у детей - современные особенности // Рос-сийский вестник перинатологии и педиатрии. - 1997. - № 3. - С.36-40.

6. Литвин, В.Ю., Гинцбург, А.Л., Пушкарева, В.И., Романова, Ю.М. Обратимый переход патогенных бактерий в покоящееся (некультивируемое) состояние: экологические и генетические механизмы //Вестник РАМН. - 2000. - № 1. - С.8-13.
7. Самсыгина, Г.А., Корнюшин, М.А., Чечкова, О.Б. Эволюция возбудителей гнойно-воспалительных заболеваний новорожденных //Педиатрия. - 1997. - № 3. - С.5-8.
8. Серов, В.В. Учение о патоморфозе: прошлое и настоящее //Архив патологии. - 1997. - Т. 59, № 4. - С.3-5.
9. Симбирцев, С.А., Бегишев, О.Б., Конычев, А.В. и др. Социальные аспекты гнойных хирургических заболеваний // Хирургия. - 1993.