ISSN 3060-4567

PRIMARY TUBERCULOSIS IN CHILDREN AND ADOLESCENTS

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At present, there are a large number of various methods of laboratory diagnostics of tuberculosis, to a greater or lesser extent reflecting the peculiarities of the course of the pathological process. General clinical, biochemical, immunological, bacteriological studies provide clinicians with the most accurate and reliable information about the state of the internal environment of the patient's organism and the course of vital processes, help to adequately judge the presence or absence of a pathological condition, its dynamic changes, and the effectiveness of treatment [1,2,3,4,5].

Keywords: *laboratory diagnostics of tuberculosis, internal environment, dynamic changes, toxic granularity of neutrophils;*

The first serious and detailed analysis of the cytologic composition of blood in tuberculosis in our country was conducted in 1959 [1,2,3]. It was noted that in tuberculosis patients red blood reacts very poorly to the infectious process in the body. In particularly severe cases, there is a decrease in hemoglobin level with normal erythrocyte count [6,11,20,21,22,23,24].

Children and adolescents are an age group that requires special attention during the period of increasing tuberculosis morbidity. Significant deterioration of the epidemiologic situation, clinical polymorphism of tuberculosis in children, manifested

ISSN 3060-4567

both by asymptomatic and pronounced picture with extensive destructive changes, low frequency of bacterial excretion require improvement of methods for diagnosing tuberculosis in children [8, 9,10,11,12,13].

In the analysis of white blood, very significant patterns have been revealed. Thus, in a pronounced inflammatory process accompanied by tissue destruction and caseous necrosis, there is a moderate increase in the total number of leukocytes with a shift toward paloconuclear forms of neutrophils. In limited tuberculous processes, the total number of leukocytes, as a rule, remains normal, and there is no paloconuclear shift. The appearance of toxic granularity of neutrophils is a signal of the age of the disease, which has already influenced the formation of these blood elements. The adverse variant of the course of tuberculosis is indicated by the appearance of lymphocytopenia. Lymphocytosis with eosinophilia, on the contrary, indicate the beginning of the recovery period.

Monocytosis reflects the moment of intense formation of epithelioid cells involved in the formation of tuberculous tubercles [1,2,3]. The dynamics of the hemogram during treatment was also covered by other authors [7, 8,9]. According to these researchers, only 56% - 71.4% of patients showed changes in the leukocytic blood formula (leukocytosis with a shift of the formula to the left) and an increase in ESR. In the literature of recent years it was not possible to find a serious analysis of changes in the peripheral blood picture in children with various forms of primary tuberculosis and the dynamics of hematologic abnormalities against the background of specific treatment in connection with age-related peculiarities.

It is generally recognized that the study of blood biochemical parameters is more indicative both in terms of determining the severity of tuberculosis inflammation and early detection of toxic-allergic reactions of the organism to the ongoing chemotherapy [6]. Such indicators as a2- and u-globulins, ceruloplasmin, haptoglobin, thymol test in combination allow to determine the degree of activity of the tuberculosis process in children. In children during the period of virage general biochemical indices did not change significantly. The content of sialic acids and C-reactive protein remained normal. With a normal amount of total protein, albumin, Ar and Ag-globulin

ISSN 3060-4567

fractions and (3-globulin, only the content of U-globulin changed, indicating the presence of an immune response to the introduction of an infectious agent [11,12].

When analyzing biochemical changes in the serum of children with small forms of intrathoracic lymph node tuberculosis, abnormalities in the proteinogram were observed in 26.8% of cases [1,8]. In children with active primary tuberculosis, there was a significant increase in globulins (due to an increase in (3- and y-fractions), a decrease in os-globulins and albumin, and an increase in haptoglobin [4]. For the exacerbation of the tuberculosis process is characterized only by changes in the proteinogram: a decrease in the albumin fraction and an increase in the level of globulins. In children at an early age there is a physiological weakening of the biosynthesis of u-globulins, and the synthesis of a- and P-globulins is higher than in an older child. Therefore, the infant usually responds to any infectious process by increasing the a- and p-fractions. With significant intoxication in such children, the concentration of albumin and globulin increases. In this regard, the ratio of albumin to globulins does not change [4, 11].

Special attention in phthisiatric practice is paid to proteins of the acute phase of inflammation - ceruloplasmin and haptoglobin. These proteins participate in the transport and utilization of copper, neuroendocrine regulation, hematopoiesis, formation of nonspecific resistance of the organism. Many researchers [1,2,3] have found that the levels of ceruloplasmin and haptoglobin increase significantly in tuberculosis. The clinical course of tuberculosis during the period of antibiotic therapy has its own peculiarities. This requires an objective assessment of the degree of activity of the specific process, the state of metabolic changes in the body during the period of chemotherapy.

To date, the damaging effect of both the tuberculosis process itself and tuberculostatic agents on the liver, central and peripheral nervous system, energy, protein and carbohydrate metabolism has been studied in detail. Both in children and adults with tuberculosis, functional and morphological changes in the liver, caused by tuberculosis intoxication proper, can be detected before the start of antibiotic therapy [4,5,6,7].

Against the background of chemotherapy, a significant increase in the activity of hepatic enzymes alanine aminotransferase and aspartate aminotransferase was found [2], which many authors attribute to the toxic effect of antituberculosis drugs on the liver [1, 2,3,4,5,6]. Hyperfermentemia is often transient, is not combined with adverse reactions and does not require special measures for its treatment. Withdrawal of antituberculosis drugs leads to normalization of indicator enzyme activity within 5-7 days.

References

1. Abduhakimov B. A. et al. Bolalar va o'smirlarda birlamchi tuberkulyozning o'ziga xos kechish xususiyatlari va klinik-laboratoriya usullari //Ta'lim innovatsiyasi va integratsiyasi. – 2024. – Т. 32. – №. 3. – С. 139-143.

2. Бердиярова Ш. Ш. и др. Клинико-лабораторная диагностика фолиевой кислотодефицитной анемии //TADQIQOTLAR. UZ. – 2024. – Т. 49. – №. 3. – С. 46-53.

3. Umarova T. A., Kudratova Z. E., Axmadova P. Role of conditionally pathogenic microflora in human life activities //Web of Medicine: Journal of Medicine, Practice and Nursing. – 2024. – Т. 2. – №. 11. – С. 29-32.

4. Muhamadiyeva L. A., Kudratova Z. E., Sirojeddinova S. Pastki nafas yo'llari patologiyasining rivojlanishida atipik mikrofloraning roli va zamonaviy diagnostikasi //Tadqiqotlar. Uz. – 2024. – Т. 37. – №. 3. – С. 135-139.

5. Umarova T. A., Kudratova Z. E., Norboyeva F. Modern aspects of etiology and epidemiology of giardias //Web of Medicine: Journal of Medicine, Practice and Nursing. – 2024. – Т. 2. – №. 11. – С. 25-28.

6. Isomadinova L. K., Daminov F. A. Glomerulonefrit kasalligida sitokinlar ahamiyati //Journal of new century innovations. – 2024. – Т. 49. – №. 2. – С. 117-120.

7. Umarova T. A., Kudratova Z. E., Maxmudova H. Mechanisms of infection by echinococcosis //Web of Medicine: Journal of Medicine, Practice and Nursing. – 2024. – Т. 2. – №. 11. – С. 18-21.

8. Даминов Ф. А., Исомадинова Л. К., Рашидов А. Этиопатогенгетические и клинико-лабораторные особенности сальмонелиоза //TADQIQOTLAR. UZ. – 2024. – Т. 49. – №. 3. – С. 61-67.

9. Umarova T. A., Kudratova Z. E., Baxromova M. Autoimmune diseases: new solutions in modern laboratory diagnostics //International Conference on Modern Science and Scientific Studies. – 2024. – С. 78-81.

10. Бердиярова Ш. Ш. и др. Узловой зоб и его клинико-лабораторная диагностика //TADQIQOTLAR. UZ. – 2024. – Т. 49. – №. 3. – С. 38-45.

11. Umarova T. A., Kudratova Z. E., Muhsinovna R. M. The main purpose of laboratory diagnosis in rheumatic diseases //International Conference on Modern Science and Scientific Studies. – 2024. – С. 82-85.

12. Umarova T. A., Kudratova Z. E., Ruxshona X. Contemporary concepts of chronic pancryatitis //International Conference on Modern Science and Scientific Studies. – 2024. – С. 11-15.

13. Хамидов З. З., Амонова Г. У., Исаев Х. Ж. Некоторые аспекты патоморфологии неспецифических язвенных колитов //Молодежь и медицинская наука в XXI веке. – 2019. – С. 76-76.

14. Umarova T. A., Kudratova Z. E., Muminova G. Instrumental diagnostic studies in chronic pancreatitis //International Conference on Modern Science and Scientific Studies. – 2024. – С. 16-20.

15. Атамурадовна М.Л., Рустамовна Р.Г., Эркиновна К.З. Роль современных биомаркеров в изучении различных поражений головного мозга //Достижения науки и образования. – 2020. – №. 10 (64). – С. 88-90.

16. Рустамова Г. Р., Мухамадиева Л. А. Современные аспекты клинико-лабораторных методов исследования острой ревматической лихорадки //International scientific review. – 2020. – №. LXVI. – С. 106-110.

17. Кудратова З.Е. и др. Роль цитокиновой регуляции при обструктивном синдроме атипичного генеза у детей // Анналы Румынского общества клеточной биологии. – 2021. – Т. 25. – №. 1. – С. 6279-6291.

18. Erkinovna K. Z. et al. Bronchial obstruction syndrome in young children with respiratory infections of different etiology: features of clinical manifestations and immune response //Проблемы науки. – 2021. – №. 1 (60). – С. 60-62.

19. Кудратова З.Е. и др. Хламидийные инфекции (внутриклеточная инфекция) в развитии бронхита // TJE-Tematics journal of Education ISSN. – 2021. – С. 2249-9822.

20. Kudratova Z. E. et al. Principles of therapy of chlamydial and mycoplasma infections at the present stage //Вопросы науки и образования. – 2021. – №. 28 (153). – С. 23-26.

21. Rustamova G. R., Kudratova Z. E. CHRONIC ENDOMETRITIS OLD ISSUES NEW POSSIBILITIES //Western European Journal of Medicine and Medical Science. – 2024. – Т. 2. – №. 5. – С. 12-14.

22. Erkinovna K. Z., Rustamovna R. G., Suratovna H. F. LABORATORY MARKERS OF PERINATAL HYPOXIC DAMAGE TO THE CENTRAL NERVOUS SYSTEM IN NEWBORNS //Наука, техника и образование. – 2020. – №. 10 (74). – С. 102-104.

23. Mukhamadieva L. A., Rustamova G. R., Kudratova Z. E. IMMEDIATE RESULTS OF COMPLEX TREATMENT OF CHILDREN WITH CHRONIC TONSILLITIS AND CHRONIC ADENOIDITIS ASSOCIATED WITH CMV AND EBV //Western European Journal of Medicine and Medical Science. – 2024. – Т. 2. – №. 5. – С. 20-24.

24. Umarova T. A., Kudratova Z. E., Norxujayeva A. Etiopathogenesis and modern laboratory diagnosis of prostatitis //International Conference on Modern Science and Scientific Studies. – 2024. – С. 6-10.