UDC: 616-092-616-022.1-071.1-08.053.5

VACCINATION OF FREQUENTLY ILL CHILDREN WITH RESPIRATORY TRACT DISEASES

Sirojiddinova Kh.N., Usmanova M.F.
Samarkand State Medical University

Abstract

The article presents data on the bacteriostatic activity of the blood serum of 146 frequently ill children aged 1 to 6 years with respiratory diseases who were treated against the background of basic therapy with the immunocorrecting drug Bronchomunal and the adjuvant sodium Nucleinate. The study was conducted before immunization, 10 days after the first, one month after the second, and one month after the third immunization. To study the bacteriostatic activity of blood serum, we used our modified photonephelometric method (2015), which is based on measuring the optical density of meat-peptone broth during the growth of staphylococcus culture in it. Prior to Bronchomunal immunization, 98 (67,1±3,3%) of the 146 children examined had bacteriostatic activity against cultures of Staphylococcus phagotype 29. After the first immunization, similar activity was recorded in 105 children (71,9±3,8%), after the second in 112 (76,7±3,9%).

Keywords: frequently ill children, bacteriostatic activity of serum, immunocorrection.

NAFAS OLISH YO'LLARI KASALLIKLARI BILAN TEZ-TEZ KASALLANADIGAN BOLALARNI EMLASH

Sirojiddinova X.N., Usmanova M.F.
Samarqand davlat tibbiyot universiteti

Annotatsiya

Maqolada 146 ta 1 yoshdan 6 yoshgacha bo'lgan, respirator kasalliklar bilan tez-tez kasallangan, asosiy terapiya fonida Bronxo-munal va adjuvant Nukleinat natriy immunokorreksiyali davoni qabul qilgan bolalar zardobining bakteriostatik faolligi haqida ma'lumot berilgan. Tadqiqot emlashdan oldin, birinchisidan 10 kun o'tgach, ikkinchisidan bir oy o'tgach va uchinchi emlashdan bir oy o'tgach o'tkazildi. Zardob bakteriostatik faoliyatini o'rganish uchun, unda stafilokokklar o'sadigan go'sht-pepton bulonning optik zichligini o'lchash biz tomondan modifikatsiyalangan fotonefelometrik usul (2015), asosida o'rganildi. Bronxo-munal bilan emlashdan oldin, tekshirilgan 146 boladan 98 tasida (67,1,±3,3%) qon zardobi fagotip 29 stafilokokk kulturalariga nisbatan bakteriostatik faollikka ega edi. Birinchi emlashdan so'ng, shunga o'xshash faollik 105 bolada (71,9±3,8%), ikkinchisida 112da (76,7±3,9%) qayd etilgan.

Kalit so'zlar: tez-tez kasallanuvchu bolalar, zardob bakteriostatik faolligi, immunokorrektsiya.

ВАКЦИНАЦИЯ ЧАСТО БОЛЕЮЩИХ ДЕТЕЙ ПРИ ЗАБОЛЕВАНИЯХ РЕСПИРАТОРНОГО ТРАКТА

Сирожиддинова Х.Н., Усманова М.Ф.
Самаркандский государственный медицинский университет

Аннотация

В статье приведены данные о бактериостатической активности сыворотки крови 146 часто болеющих детей в возрасте от 1 года до 6 лет с респираторными заболеваниями, которые лечились на фоне базисной терапии иммунокоррегирующим препаратом Бронхо-муналом и адъювантом Нуклеинат натрием. Исследование проводилось до иммунизации, спустя 10 дней после первой, через месяц после второй и через месяц после третьей иммунизации. Для изучения бактериостатической активности сыворотки крови, использован модифицированный нами фотонефелометрический метод (2015), который основан на измерении оптической плотности мясопептонного бульона при росте в нем культуры стафилококка. До проведения иммунизации Бронхо-муналом из 146 обследованных детей у 98 (67,1,±3,3%) сыворотка крови обладала бактериостатиче-

ской активностью в отношении культур стафилококка фаготипа 29. После первой иммунизации подобная активность была зарегистрирована у 105 детей (71,9±3,8%), после второй у 112 (76,7±3,9%).

Ключевые слова: часто болеющие дети, бактериостатическая активности сыворотки, иммунокоррекция.

The relevance of the problem. Research is being conducted worldwide to improve comprehensive diagnostics and the effectiveness of treatment of respiratory diseases in children. The development of modern methods of conservative treatment of chronic diseases in children, the creation of mechanisms for preventive measures that prevent diseases and reduce complications is of no small importance.

The cause of increased respiratory morbidity in children is low immune resistance function and delayed maturation of the immune system organs [9, 10]. The main factor that determines higher sensitivity to infections is the age-related feature of the child's immune system. Compared to adults, it is less differentiated to the impact of infection [11, 12, 13].

Bacteriostatic activity of blood serum (BAS) is one of the humoral factors of body defense, its role is great in the elimination of the pathogenic agent [5,6]. There are data [1, 7] on the change in the immune status of frequently ill children when using immunocorrective drugs (Broncho-munal, Ribomunal, Vilon, Imudon, IRS 19, etc.). When using immunocorrective drugs, an increase in the amount of immunoglobulins in the blood serum is noted [3, 4], others indicate an increase in the activity of natural killers and neutrophils [2, 14, 15], as well as interleukin (IL1), CD3 +, CD4 + cells [7]. The difficulties in studying the bacteriostatic activity of blood serum during immunization with various vaccines are apparently associated with the lack of a proven express method [8,13]. The classical method, with the addition of certain amounts of microbial bodies to the serum under study, is laborious and non-standard.

Purpose of the study. To determine the change in bacteriostatic activity of serum in frequently ill children during immunization with bacterial lysate and adjuvant.

Material and research methodology. We studied the bacteriostatic activity of the blood serum of 146 frequently ill children aged 1 to 6 years with respiratory diseases who were treated against the background of basic therapy with the immunocorrective drug Broncho-munal and the adjuvant Nucleinate sodium. Broncho-munal is a drug consisting of 8 bacterial lysates, which are most often the causative agents of inflammatory diseases of the respiratory tract. Broncho-munal is used both for the treatment and for prolonging the period of remission of diseases of the upper respiratory tract. However, the use of the drug for 3 months to stimulate the immune system is a long period. In such cases, adjuvants are used together with immunostimulants to accelerate antibody formation [6].

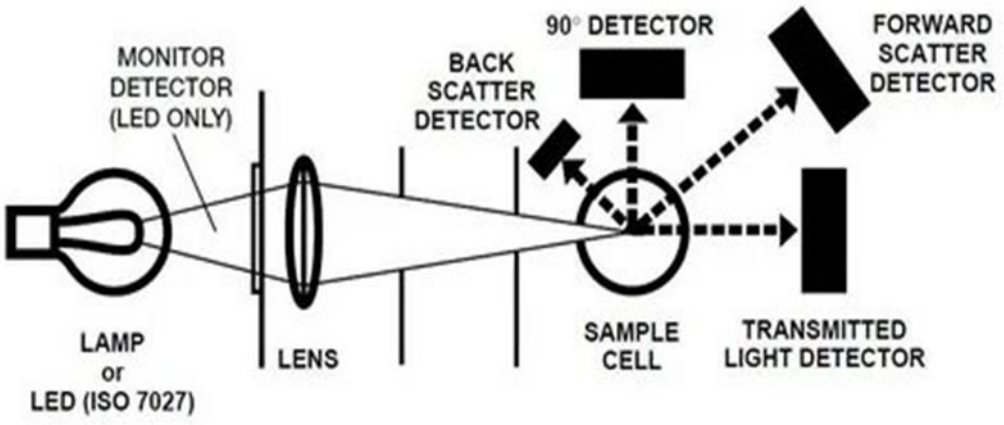
For immunocorrection, the drug Broncho-munal P manufactured by Lek a Sandos was used, which is available in capsules of 3.5 mg. The drug was prescribed after normalization of temperature, in the morning on an empty stomach, 1 capsule per day, for 3 months for 10 days with a 20-day interval. As a comparison group, 30 occasionally ill children were examined.

Sodium nucleinas - Natrii nucleinas, manufactured by Biosintez, Russia RNA-containing preparation obtained from yeast cells, white or slightly grayish-yellow powder. Easily soluble in water to form opalescent solutions. Sodium nucleinate is prescribed to children with traditional basic therapy and with the use of Broncho-munal for 10 days. Sodium nucleinate is prescribed in the following doses: from 1 year to 2 years, 0.005 - 0.01 g per dose, from 2 to 5 years, 0.015 - 0.05 g, from 5 to 7 years, 0.05 - 0.1 g. 3 - 4 times a day.

Research results and their discussion. The study was conducted before immunization, 10

days after the first, a month after the second, and a month after the third immunization. To study the bacteriostatic activity of blood serum, we used a modified photonephelometric method of 2019 (V.I. Smirnova and T.A. Kuzmina, 1966), which is based on measuring the optical density of meat-peptone broth during the growth of a staphylococcus culture in it. Before immunization with Broncho-munal, out of 146 examined children, 98 (67.1 ± 3.3%) had blood serum with bacteriostatic activity against staphylococcus phage type 29 cultures. After the first immunization, similar activity was recorded in 105 children (71.9 ± 3.8%), after the second in 112 (76.7 ± 3.9%). The highest bacteriostatic activity of blood serum was detected in all 146 children (100%) one month after the third immunization with Broncho-munal.

Bacteriostatic activity of blood serum in frequently ill children against pathogenic staphylococcus cultures from phage group III (phage type 83A) before immunization was very low: out of 146 sera, only 45 (30.8±1.6%) inhibited the growth of phage type 83A cultures. After the first immunization, the number of sera with bacteriostatic activity against staphylococci of this phage type increased, but the percentage of positive results was still low 56 (38.3±2.7%) (Fig. 1).



Picture 1. Photonephelometric method for studying blood serum.

In total, out of 146 immunized children, 66 (45.2±2.7%) had blood serum that did not have bacteriostatic activity against phage type 83A cultures. These data were statistically significant. Thus, blood serum in children with immunizations actively inhibits the growth of staphylococci from phage group I (phage type 29) and weakly inhibits the growth of strains from phage group III (phage type 83A).

A significant increase in bacteriostatic activity of blood serum in FICh was noted with the combined use of Broncho-munal and Sodium Nucleinate against the background of traditional therapy. If with immunization with one bacterial lysate, 100% manifestation of bacteriostatic activity of serum was noted only after three immunizations, then with the combined use of Broncho-munal and the adjuvant Sodium Nucleinate, similar serum activity was recorded after the second immunization. This suggests that the combined use of an immunocorrective drug with an adjuvant accelerates the accumulation of specific globulins in the blood serum in relation to phage types from phage groups I and III.

Dynamic study of the degree of bacteriostatic activity of blood serum in children with immunization with an immunocorrective drug and adjuvant reveals that before immunization, out of 146 examined children, none of their blood serum showed inhibiting growth of staphylococcus in dilutions of 1:640 and 1:1280. The same result was recorded after the first immunization. After the second and third immunizations, many children's blood serum showed bacteriostatic activity

against the culture of pathogenic staphylococcus (phage types 29 and 83A) in its higher dilutions (1:640 and 1:1280).

Taking into account the obtained results, it can be assumed that during treatment with Broncho-munal and the adjuvant Sodium Nucleinate, the blood serum of immunized individuals acquires high bacteriostatic activity against pathogenic microbes.

Conclusions.

1. The photonephelometric method for determining the bacteriostatic activity of blood serum (FEC-56M Poland) is not labor-intensive (easily performed) and gives a more standard result.

2. Normal blood serum actively inhibits the growth of staphylococci from phage group I (phage type 29) and weakly inhibits the growth of strains from phage group III (phage type 83A).

3. The combined use of Broncho-munal and Sodium Nucleinate for the treatment of frequently ill children with respiratory diseases against the background of traditional therapy is effective, which is expressed in a 100% increase in the bacteriostatic activity of blood serum after the second immunization in relation to the culture of pathogenic staphylococci.

Used literature:

1. Boccaccio C., Jacod S. Identification of a clinical-grade maturation factor for dendrites cells. J. Immunotherapy., 2020, Jan-Feb, 25 (1):88-96.
2. Drozdova M.V., Timofeeva G.I., Tyrnova E.V., et al. Evaluation of the effects of local immunostimulation with Imudon in chronic tonsillitis in children. Russian Bulletin of Perinatology and Pediatrics. 2016, No. 3, p. 50.
3. Garashchenko T.I., Garashchenko M.V., Ovechkina N.V., Kats T.G. Clinical and immunological efficacy of Imudon in frequently and chronically ill children with pathology of the lymphopharyngeal ring. Pediatrics. 2018, Vol. 88, No. 5, p. 98.
4. Grishchenko T.P., Khvalov A.N. Non-drug correction of the respiratory tract condition in frequently ill children // Vestn. otolaryngol. - 2016. - No. 6. - P. 59-62.
5. Markova T.P., Chuvirov D.G. Children who are frequently and long-term ill. Russian Medical Journal. 2022, v.10, no.3, p.125.
6. Sirojiddinova X.N., Abdullaeva M.N.//Monograph. Optimization of treatment of respiratory pathology in frequently ill children. Samarkand, 2021-120 p.
7. Sirojiddinova X.N., Abdullaeva M.N. Variants of immunocorrection of immune status shifts in frequently ill children. Journal Vestnik Vracha Samarkand, 2018., No. 1, pp. 70-73.
8. Sirojiddinova X.N., Abdullaeva M.N. Dynamics of immunity in frequently ill children with immunocorrective therapy. Journal of reproductive health and uronephrological research. No. SI-2.1 2021. 105-108 bet.
9. Shervashidze M., Barbadze K. Efficiency of the drug Ribomunal in respiratory pathology in frequently ill children. Journal of Theoretical and Clinical Medicine. 2017, No. 2, p. 65.
10. Shamsiev F.M., Karimov U.A., Khaidarova M.M. Monograph. Immunocorrective drugs and their applications. Tashkent. 2019. Pp. 4 – 5.
11. Shamsheva, O. V. Flu and ARVI in children / O. V. Shamsheva. - Moscow: GEOTAR-Media, 2020. - 112 p. (Code 616.921.5/19).
12. Sirojiddinova X.N., Nabieva Sh.M., Ortikboyeva N.T. Intrauterine infection as a developmental factor perinatal pathology // Central Asian journal of medical and natural sciences Volume: 02 Issue: 01 | Jan-Feb 2021 ISSN: 2660-4159. On page 107-111.

13. Sirojiddinova X.N., Usmanova M.F., Ortikboyeva N.T., Tuxtayeva M.M. Immunological dynamics of recurrent respiratory infections in frequently sick children on the background of immunocorrective therapy // IJIEMR Transactions, online available on 11 April 2021.Vol 10. On page 131-134.
14. Sirojiddinova X.N., Abdulleva M.N. Formation of circulating immune complexes (CIC) and immunoglobulins in intrauterine infection (IUI) // European science review, Austria, Vienna, 2016.- № 9-10. - P.134-135.
15. Zemskov A.M., Zemskov M.A., Zoloedova V.I., Pritulena Yu.G., Bolotsky V.I. Possibilities of correction of typical reactions of the immune system in various pathological processes. Journal of Theoretical and Practical Medicine. 2018, V-2, No.1, p.73.