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O'TKIR RESPIRATOR INFEKSIYALARI BILAN TEZ-TEZ KASALLANADIGAN BOLALARDA IMMUNITET HOLATI

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IMMUNE STATUS IN FREQUENTLY ILL CHILDREN WITH ACUTE RESPIRATORY INFECTIONS

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ANOTATSIYA (O'ZBEK TILIDA)

Dolzarbliqi: Tez-tez kasallanadigan bolalar pediatriyada eng bahsli va ijtimoiy jihatdan ahamiyatli guruhlardan birini tashkil qiladi. Ushbu bemor populyatsiyasida o'tkir respirator infeksiyalarning yuqori chastotasi nafaqat jiddiy yuqumli fonga, balki immun tizimidagi chuqur funktsional o'zgarishlarga ham bog'liq.



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Tadqiqot maqsadi: Immunologik moslashuvning asosiy omillarini aniqlash uchun remissiya davrida tez-tez kasallanadigan bolalarda hujayra, gumoral va mahalliy immunitet parametrlarini baholash.

Material va usullar: Tez-tez kasal bo'ladiganlar guruhiga (o'rganish guruhi) kiritilgan 3 yoshdan 7 yoshgacha bo'lgan 60 nafar bolada kompleks immunologik tekshiruv o'tkazildi. Nazorat guruhi 30 nafar sog'lom tengdoshlardan (epizodik kasalliklarga chalingan bolalar guruhi) iborat edi. Immun holati oqim sitometriyasi ($CD3^+$, $CD4^+$, $CD8^+$, $CD19^+$ limfotsitlar subpopulyatsiyalari), radial immunodiffuziya (IgA, IgM, IgG) va ELISA (so'lakdagi sekretor IgA) yordamida baholandi.

Natijalar: Immunoregulyator indeksi ($CD4^+/CD8^+$) $1,2 \pm 0,1$ gacha pasaydi (nazorat guruhida $1,8 \pm 0,15$; $p < 0,05$). Bemorlarning 42% ida zardobdagi IgG sintezining, 28% ida esa selektiv IgA yetishmasligi kuzatildi. Orofaringeal sekretyadagi sekretor IgA darajasi nazorat guruhiga qaraganda 2,1 baravar past edi ($p < 0,01$).

Xulosa: Tez-tez kasal bo'ladigan bolalarning immun holati mahalliy qarshilik omillarining pasayishi fonida hujayra va gumoral komponentlar o'rtasidagi doimiy nomutanosiblik bilan tavsiflanadi, bu esa kompleks reabilitatsiyaga topikal immunomodulyatorlar va shilliq qavat vaksinalarini kiritishni talab etadi.

Kalit so'zlar: tez-tez kasallanadigan bolalar, o'tkir respirator infeksiyalar, hujayra immuniteti, gumoral immunitet, sekretor IgA, $CD4^+/CD8^+$, immunomodulyatsiya.



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ABSTRACT (ENGLISH)

Background: Frequently ill children constitute one of the most debated and socially significant groups in pediatrics. In this patient population, the high frequency of acute respiratory infections is linked not only to a serious infectious burden but also to profound functional changes in the immune system.

Objective: To evaluate cellular, humoral, and local immunity parameters in frequently ill children during remission in order to identify the key factors of immunological maladaptation.

Materials and Methods: A comprehensive immunological examination was performed in 60 children aged 3 to 7 years belonging to the frequently ill group (study group). The control group consisted of 30 healthy peers (children with episodic illnesses). Immune status was assessed using flow cytometry ($CD3^+$, $CD4^+$, $CD8^+$, $CD19^+$ lymphocyte subpopulations), radial immunodiffusion (IgA, IgM, IgG), and ELISA (salivary secretory IgA).

Results: The immunoregulatory index ($CD4^+/CD8^+$) declined to 1.2 ± 0.1 (versus 1.8 ± 0.15 in the control group; $p < 0.05$). Insufficient serum IgG synthesis was found in 42% of patients, and selective IgA deficiency in 28%. The level of secretory IgA in oropharyngeal secretions was 2.1 times lower than in the control group ($p < 0.01$).

Conclusion: The immune status of frequently ill children is characterized by a persistent imbalance between cellular and humoral components against a background of declining local resistance factors, warranting the inclusion of topical immunomodulators and mucosal vaccines in comprehensive rehabilitation.

Keywords: frequently ill children, acute respiratory infections, cellular immunity, humoral immunity, secretory IgA, $CD4^+/CD8^+$, immunomodulation.



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KIRISH

Tez-tez kasallanadigan bolalar pediatriyada eng bahsli va ijtimoiy jihatdan ahamiyatli guruhlardan birini tashkil qiladi. Ushbu bemor populyatsiyasida o'tkir respirator infeksiyalarning yuqori chastotasi nafaqat jiddiy yuqumli fonga, balki immun tizimidagi chuqur funktsional o'zgarishlarga ham bog'liq. Ushbu mexanizmlarni tushunish samarali shaxsiylashtirilgan rehabilitatsiya dasturlarini ishlab chiqish uchun juda muhimdir.

TADQIQOT MAQSADI

Immunologik moslashuvning asosiy omillarini aniqlash uchun remissiya davrida tez-tez kasallanadigan bolalarda hujayra, gumoral va mahalliy immunitet parametrlarini baholash.

MATERIALLAR VA USULLAR

Tez tez kasal bo'ladiganlar guruhiga (o'rganish guruhi) kiritilgan 3 yoshdan 7 yoshgacha bo'lgan 60 nafar bolada kompleks immunologik tekshiruv o'tkazildi. Nazorat guruhi 30 nafar sog'lom tengdoshlardan (epizodik kasalliklarga chalingan bolalar guruhi) iborat edi. Immun holati oqim sitometriyasi (CD3+, CD4+, CD8+, CD19+ limfotsitlar subpopulyatsiyalari), radial immunodiffuziya (IgA, IgM, IgG) va ELISA (so'lakdagi sekretor IgA) yordamida baholandi.

OLINGAN NATIJALAR

Bolalarda immun tizimidagi o'xshash o'zgarishlar majmuasi kuzatildi. Hujayra immuniteti sitotoksik T-limfotsitlarning (CD8+) o'rtacha ko'payishi bilan birga T-yordamchilarining (CD4+) nisbiy va mutlaq sonining sezilarli darajada kamayishini ko'rsatdi, natijada immunoregulyator indeksi (CD4+/CD8+) $1,2 \pm 0,1$ gacha pasaydi (nazorat guruhida $1,8 \pm 0,15$; $p < 0,05$). Gumoral tizimda



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bemorlarning 42 foizida zardobdagi IgG sintezining yetishmasligi va tekshirilganlarning 28 foizida selektiv IgA yetishmasligi kuzatildi. Eng sezilarli o'zgarishlar mahalliy himoya omillarida aniqlandi: tez-tez kasal bo'ladigan bolalarning orofaringeal sekretsiasidagi sekretor immunoglobulin A (sIgA) darajasi nazorat guruhiga qaraganda 2,1 baravar past edi ($p < 0,01$).

XULOSA

Shunday qilib, tez-tez kasal bo'ladigan bolalarning immun holati shilliq pardalarning mahalliy qarshilik omillarining sezilarli darajada pasayishi fonida hujayra va gumoral komponentlar o'rtasida qaytariladigan, ammo doimiy nomutanosiblik bilan tavsiflanadi. O'tkir respirator infeksiyalarga yuqori sezuvchanlikning yetakchi patogenetik omili sekretor sIgA yetishmovchiligi va T-yordamchi faolligining pasayishi hisoblanadi. Aniqlangan buzilishlar tez-tez kasal bo'ladigan bolalarni kompleks reabilitatsiya qilish rejimlariga topikal immunomodulyatorlar va shilliq qavat vaksinalarini kiritish zarurligini asoslaydi.

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