

CYTOMEGALOVIRUS INFECTION IN YOUNG CHILDREN

Alyona Altynbekova ^{1,2}, Turdalina Bayan ^{1,2}, Mussina Albina ¹, Aliya Seidullayeva ^{1,2}

¹ INCJSC «Astana Medical University», Astana, 010000, Kazakhstan

² Многопрофильная городская детская больница №3

*Corresponding author (s): seidullayeva.aliya@gmail.com; albina.musina.00@mail.ru

Background: Cytomegalovirus infection (CMV) in young children is a significant problem due to pronounced clinical polymorphism and variability of the course, which significantly complicates timely diagnosis, especially in patients with an aggravated premorbid background. Study objective: To assess the clinical course and outcomes of cytomegalovirus infection in children from 1 month to 3 years old.

Materials and methods: The study included young children (n = 327) with a clinically and laboratory-confirmed diagnosis of CMV who were treated in the period 2021–2024.

Clinical observation was carried out according to standardized indicators: general condition, temperature reaction, signs of intoxication, neurological symptoms, skin condition, hemodynamic parameters and catarrhal-respiratory symptoms and laboratory data (ELISA, PCR). All patients received therapy in accordance with current clinical protocols.

Results: Analysis of the obtained data showed polymorphism of clinical manifestations. The most frequently recorded were: intoxication syndrome (70%), the key symptom of which was prolonged fever - from subfebrile to hectic values, respiratory syndrome (74%) and cardiovascular lesions (46%). In the structure of central nervous system lesions, the following prevailed: cystic changes in the brain (35.3%), hydrocephalus (32.4%) and hypoxic-ischemic lesions (29.4%). Cardiovascular pathology was noted in 52.2%.

Conclusion: Cytomegalovirus infection in young children is characterized by a variety of clinical manifestations with the dominance of intoxication syndrome (70%), respiratory syndrome (74%) and cardiovascular lesions (46%). The high

frequency of CNS involvement (up to 70% of cases) indicates the need for early diagnosis and comprehensive monitoring of patients in this group. Cytomegalovirus infection (CMV) in young children is a serious medical and social problem.

Acknowledgement: We express our gratitude to the doctors of Multidisciplinary City

Children's Hospital No. 3 for providing access to patients

Key words: CMVI, young children, sensorineural hearing loss, central nervous system, pneumonia.

References:

1. Puhakka L, Lappalainen M, Lönnqvist T, Nieminen T, Boppana S, Saxen H, Niemen-sivu R. Hearing outcome in congenitally CMV infected children in Finland – Results from follow-up after three years age. *Int J Pediatr Otorhinolaryngol.* 2022 May;156:111099. doi: 10.1016/j.ijporl.2022.111099. Epub 2022 Mar 3. PMID: 35276528
2. Gane SB, Kelly C, Hopkins C. Isolated sudden onset anosmia in COVID-19 infection. A novel syndrome? *Rhinology.* 2020 Jun 1;58(3):299-301. doi: 10.4193/Rhin20.114. PMID: 32240279
3. Hopkins C, Surda P, Kumar N. Presentation of new onset anosmia during the COVID-19 pandemic. *Rhinology.* 2020 Jun 1;58(3):295-298. doi: 10.4193/Rhin20.116. PMID: 32277751
4. Moein ST, Hashemian SM, Mansourafshar B, Khorram-Tousi A, Tabarsi P, Doty RL. Smell dysfunction: a biomarker for COVID-19. *Int Forum Allergy Rhinol.* 2020 Aug;10(8):944-950. doi: 10.1002/alr.22587. Epub 2020 Jun 18. PMID: 32301284; PMCID: PMC7262123