

## IMMUNOLOGICAL CHANGES IN HIV-INFECTED CHILDREN WITH VIRAL DIARRHEA

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**Actuality.** Diarrhea is a common condition among 30–60% of HIV-infected patients in developed countries, whereas in low- and middle-income countries, almost 90% of individuals with HIV suffer from diarrhea. Intestinal infections are the main cause of diarrhea in these populations [Wondmieneh A, Gedefaw G, Alemnew B. Intestinal parasitic infections and associated factors among people living with HIV/AIDS in Ethiopia. PLoS One. 2020].

**The aim of the study.** To investigate the immunological changes in HIV-infected children with viral diarrhea.

**Materials and Methods.** The study was conducted from 2020 to 2024 at the Republican AIDS Center and the Specialized Infectious Diseases Hospital of Tashkent. **Study sample:** 110 HIV-infected children diagnosed with viral diarrhea.

**Results. Immunological Indicators:** Moderate immunosuppression (CD4 count: 350–499 cells/ $\mu$ L): observed in 24.7% of cases. Severe immunosuppression (CD4 count: 200–349 cells/ $\mu$ L): 2.2 times more frequent compared to moderate immunosuppression ( $P < 0.05$ ). Viral Load Analysis:- 15.5% of patients (17 out of 110) had undetectable HIV RNA in their blood. - 77.3% of patients (85 out of 110) had a viral load of less than 1000 copies/mL.

Higher viral loads: - 1000–10,000 copies/mL: observed in 1.8% of cases. - 10,000–100,000 copies/mL: 1.8% of cases. - 500,000–1,000,000 copies/mL: 1.8% of cases. Differences in higher viral load groups were not statistically significant ( $P > 0.05$ ).

**Conclusion.** Immunosuppression levels vary significantly among HIV-infected children with viral diarrhea, with severe immunosuppression being 2.2

times more frequent than moderate levels. Viral load data showed that most patients had low viral loads (<1000 copies/mL), while higher viral loads (>10,000 copies/mL) were rare but present. The findings emphasize the importance of continuous monitoring of CD4 counts and viral load to assess the progression of immunosuppression and its clinical impact on these patients. This study provides valuable insights into the immunological status and viral dynamics of HIV-infected children with diarrhea, highlighting the need for targeted interventions and improved management strategies.