



## **A Study of Bacterial Pathogens Associated with Diarrhea in HIV-Positive Patients**

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**Actuality:** Diarrhea is a common complication of acquired immune deficiency syndrome (AIDS), occurring in almost 90% of AIDS patients in developing countries like Uzbekistan.

**The purpose of the study:** Determine the prevalence and microbiological profile of pathogens associated with diarrhea in human immunodeficiency virus (HIV) positive patients and their relation to CD4 counts.

**Materials and methods:** Forty-five successive HIV-positive patients, 27 with diarrhea (study group) and 18 without diarrhea (control group), were included in the three-month study. The HIV infection was confirmed by three different antibody detection tests. The stool samples were collected on two consecutive days. They were examined for bacteria by Gram stain and conventional Ziehl-Neelsen stain and were inoculated on appropriate culture media. The isolates were identified by standard biochemical tests, followed by antibiotic susceptibility testing using the Kirby-Bauer disc diffusion method.

**Results:** Twenty-four pathogens were detected in diarrheal HIV-positive patients, including 14 bacteria (75.33%), 4 fungi (18.17%), and 2 parasite (6.50%). *Escherichia coli* (18.5%) was the most common bacterial isolate, of which, 80% were Enterotoxigenic *E. coli* (ETEC) while 20% were Enteropathogenic *E. coli* (EPEC). Other isolates included *Shigella flexneri* and *Mycobacterium tuberculosis* (3.7% each). *Candida* is the most common fungi. The isolates were sensitive to furazolidone (94.11%), chloramphenicol (76.47%), and gentamicin (52.94%). The diarrheal HIV-positive patients had lower mean CD4 counts (202.6 cells/ $\mu$ L), as compared to those without diarrhea (239.28 cells/ $\mu$ L).



**Conclusion:** Escherichia coli is the most common bacterium associated with diarrhea in HIV patients. The antibiotic sensitivity patterns should be monitored regularly to detect resistance to commonly used drugs. The prevalence of organisms in a region, various clinical manifestations, sensitivity patterns of isolates, and relation with CD4 count should be considered while instituting therapy in HIV patients with diarrhea.