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Assessment of specific antimicrobial therapy on opportunistic diarrheal agents in HIV/AIDS

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Diarrhea is commonly infective in origin in people living with HIV/AIDS (PLWHA). Infectious diarrhea caused by wide spectrum of diarrheal agents is a dominant contributor to high mortality especially in developing countries. An intervention study to know the spectrum of diarrheal agents in anti-retroviral therapy (ART) naive & ART adherent HIV/AIDS adult subjects with diarrhoea and assess the response of recommended specific anti-microbial treatment on these wide varieties of diarrheal agents was conducted. After taking an informed consent, seventy five ART naive and seventy five ART adherent HIV/AIDS adult patients with diarrhoea were enrolled for this study. Stool samples from all subjects were requested and were examined for diarrheal agents by wet mount, staining methods (Gram's, modified Kinyoun's, trichrome stain), culture and ELISA (*Cryptosporidium* antigen, *Clostridium difficile* toxin, *Entamoeba histolytica* antigen). Subjects with enteropathogens were prescribed with recommended specific antimicrobial therapy as per National AIDS Control Organisations (NACO), Government of India guidelines. Follow up stool samples were examined after 2-4 weeks of completion of therapy for persistence/clearing of enteropathogens. CD4⁺ T lymphocyte count was done for all subjects. At enrolment ART naive group had 26.13% bacterial, 57.66% parasitic & 16.22% fungal pathogens while ART adherent group had 11.9%, 69.05% & 19.05% pathogens respectively. Single pathogen was identified in 18.67% of subjects in ART naive group while it was 32% in ART adherent group. 54.68% subjects in ART naive subjects had multiple pathogens while only 49% in ART adherent subjects had more than one pathogen. Parasitic diarrhoea was more common than bacterial diarrhoea in North Indian HIV subjects. The coccidian parasites (*Cryptosporidium spp.* & *Isospora belli*) were the common parasites identified. Clearance of enteric pathogens was significant after specific anti-microbial therapy (p=0.0001). Persistence of enteropathogens was seen primarily for coccidian parasites. Clearance of enteropathogens after specific antimicrobial therapy and the diagnostic yield of stool specimens were influenced by the CD4⁺ counts with higher CD4⁺ counts giving less yield and better clearance. Immune competence coupled with specific anti-microbial therapy displays the best response against enteric pathogens.

Biography

Arun Kumar Jha is a Medical Microbiologist working at the Rabigh General Hospital and Ministry of Health, Rabigh City of Saudi Arabia. He holds MBBS degree from University College of Medical Sciences, Delhi and MD (Medical Microbiology) degree from Maulana Azad Medical College, Delhi, India. His past affiliations are Medanta, The Medicity, Gurgaon, India; Maulana Azad Medical College, Delhi and Quest Diagnostics India, Gurgaon, India. He has a strong interest for diagnostic microbiology, molecular diagnostics, and infection control and is very passionate about HIV & clinical microbiology research. He has authored and published over >10 original articles in indexed journals of good impact factors, and has presented at several national and international conferences. He has been serving as an editorial board member of repute and also been the reviewer to well known medical journals. Recently, his biography has been nominated & selected after thorough screening process for inclusion in the Marquis "Who's Who in the World, 2015" (32nd Edition).

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