

INTRODUCTION

Opportunistic Infections (OIs) are responsible for significant morbidity and mortality among HIV-infected persons in the Caribbean. Clinical studies of adults or children with HIV infection in Barbados,ⁱ Haiti,ⁱⁱ Cuba,ⁱⁱⁱ Puerto Rico,^{iv} Guadeloupe,^v and elsewhere indicate that OIs commonly seen in the region include tuberculosis;^{vi} *pneumocystis* pneumonia; toxoplasmosis encephalitis; cryptococcal meningitis; histoplasmosis; mucocutaneous candidiasis; *Mycobacterium avium* complex disease; bacterial respiratory infections; bacterial and parasitic enteric infections; syphilis; and viral infections caused by cytomegalovirus, herpes simplex virus, varicella zoster virus, human herpesvirus type I, and human papillomavirus.

In the foreseeable future, OIs will remain a principal reason that HIV-infected persons seek medical attention. The management of OIs remains challenging; treatment strategies continue to evolve as new drugs are developed and as more data about efficacy, toxicity, and drug-drug interactions emerge.

THE EFFECT OF HAART ON OIS AND IMMUNE RECONSTITUTION SYNDROME (IRS)

Data from randomised, controlled trials and observational cohort studies demonstrate that HAART reduces the incidence rates of OIs and improves survival among people with HIV infection, independent of the use of antimicrobial prophylaxis. The clinical benefit of HAART in reducing the risk of OIs over the short term has been most clearly documented for those with CD4+ T cell counts of <200 cells/mm³. Studies also support benefit in patients with CD4+ T cell counts of >200 cells/mm³, although there is debate over the desirability of starting HAART in this population. While HAART does not replace the need for antimicrobial prophylaxis in patients with severe immune suppression, it remains the cornerstone of the overall strategy to reduce morbidity due to complications of HIV infection.

In addition to preventing OIs, HAART often results in improvement in or resolution of many OIs. This is especially important regarding conditions for which specific treatment options are suboptimal.

However, initiation of HAART in the setting of an OI can also result in IRS. IRS occurs when a patient's immune system, newly strengthened by the recent initiation of HAART, mounts an exuberant inflammatory reaction against one or more OIs. OIs for which IRS has been described include mycobacterial infections (including disease due to both *Mycobacterium avium* complex (MAC) and *Mycobacterium tuberculosis* (TB)), *Pneumocystis jiroveci* pneumonia (PCP), toxoplasmosis, hepatitis B and hepatitis C infections, cytomegalovirus (CMV) infection, varicella zoster virus (VZV) infection, cryptococcal infection, and progressive multifocal leukoencephalopathy (PML). Often the OI responsible for IRS is not diagnosed until after HAART is initiated, having been clinically inapparent due to the lack of an inflammatory response from the debilitated immune system. IRS is usually characterised by fever and other clinical manifestations of the underlying OI, and typically develops within the first six weeks of initiation of HAART, though later manifestations have been described. Clinicians must be vigilant for IRS, because it may present with atypical signs and symptoms, and distinguishing between IRS versus drug toxicity versus a new OI can be challenging. IRS is typically treated by adding non-steroidal anti-inflammatory agents (NSAIDs) or corticosteroids to alleviate the inflammatory reactions, though clinical guidelines have not been developed. The condition may take weeks or months to subside.

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