Role of intestinal dysfunction in the nutritional compromise seen in human immunodeficiency virus-infected adults in rural India

Research snapshot¹

Human immunodeficiency virus (HIV) disease progression is often marked by enteropathy, which contributes to malabsorption of macro- and micro-nutrients and to progressive weight loss. Altered intestinal function may also lead to poor absorption of antiretroviral and anti-tuberculosis drugs, resulting in treatment failure. Little is known about the magnitude of intestinal dysfunction in the HIV-infected population, particularly in resource-poor countries such as India. This study investigated the association of intestinal dysfunction in HIV-infected individuals with nutritional status and low serum/plasma levels of antioxidant micronutrients, comparing levels with healthy seronegative controls in a rural population in India.

The study was carried out in 2006 in Tamil Nadu. The target population is mainly agrarian, with many being subsistence farmers and labourers. A cross-sectional survey was conducted among 45 consenting HIV-infected, antiretroviral therapy (ART) naive participants attending an HIV clinic and 45 age and socioeconomic matched HIV-negative, neighbourhood population controls. The extent of intestinal dysfunction was assessed using a D-xylose absorption test and association with nutritional compromise was measured by body mass index (BMI) and serum antioxidant levels.

Results found that a similar proportion of HIV-positive and HIV-negative participants had intestinal dysfunction (42.2% versus 44.4%) that was worse with advanced disease; an increasing gradient of low D-xylose absorption was noted with decreasing CD4 counts (32%, 50% and 58.3% among those with >350, 200-350 and <200 cells/mm³, respectively). Multivariate analysis revealed a significant association between intestinal dysfunction and low BMI (P=0.03) independent of HIV infection and calorie intake per day (P=0.02).

The findings suggest an underlying prevalence of enteropathy among the rural population in India which makes the HIV-positive population more vulnerable to nutritional compromise and rapid progression of disease. The authors conclude that weight loss in HIV-infected individuals should be investigated for intestinal dysfunction, especially in low-resource settings, to aid appropriate management.

Footnotes
