Survey of HAART/ART in HIV/AIDS Patients

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ABSTRACT

Human immunodeficiency virus (HIV) has progressed from a fatal to a chronic disease due to the almost universal use and accessibility of antiretroviral therapy (ART) in HIV-infected patients. Antiretroviral (ARV) treatment works by suppressing the viral load and restoring the immune system. Once patients start highly active antiretroviral therapy (HAART), it must be continued throughout life despite its many unwanted side effects. Zidovudine (AZT) a nucleoside reverse transcriptase inhibitor is the first line antiretroviral regimen in India, and was the first break through in AIDS therapy in 1990. It is known to be associated with life threatening toxicity like anaemia.

OBJECTIVE

- Identify adverse drug reactions (ADRs) to antiretroviral therapy (ART)
- Assess their impact on treatment adherence in HIV / AIDS patients in West India

This study even included prevalence of AZT induced anaemia in HIV infected patients initiated on AZT containing antiretroviral therapy regimen in western India.

METHODS

A retrospective study was conducted in Gujarat to study the adverse effects after the initiation of HAART in 1,244 patients on HAART who were assessed retrospectively for their adverse effects (ADRs). This retrospective study was carried out in ART Centres, of western India (Gujarat). HIV infected patients registered at ART Centres were treated according to guideline of National AIDS Control Organization (NACO). Other 1269 patients with haemoglobin (Hb) >8 g/dl were prescribed AZT based antiretroviral therapy regimens who may even be included for previous group. Patients who developed anaemia (< 18 kg/m2 and MCV)

INTRODUCTION

The human immunodeficiency virus (HIV) has progressed from fatal to chronic diseases due to the almost universal use and accessibility of antiretroviral therapy (ART) in HIV-infected patients. Antiretroviral therapy (ARV) works by suppressing the viral load and restoring the immune system. It is estimated that of the 35.3 million people living with HIV worldwide, 10.6 million received ART in 2012. Nearly 6.6 million HIV / AIDS-related deaths worldwide have been prevented by ART. Despite these gains, the side effects of these drugs remain a significant public health problem and can compromise the effectiveness of ART programs.

In India, approximately 2.4 million people were living with human immunodeficiency virus (HIV) in 2009, which is estimated to be the third largest population of HIV affected people in the world. With the availability of new antiretroviral drugs, there has been a decline in morbidity and mortality due to acquired immunodeficiency syndrome (AIDS). The advent of highly active antiretroviral therapy (HAART) has resulted in significant decreases in HIV-related morbidity and mortality in both the developed and developing Rajeev et al. and HAART has been touted as one of the greatest breakthroughs in the response to the HIV pandemic.

HAART can be changed or discontinued for many reasons; including side effects and virologic failure are essential. The side effects can in themselves lead to virological failure or progression of the disease due to suboptimal administration or discontinuation of treatment. In a study done in India, 90.6% of all HAART patients developed an adverse drug reaction and there were 618 episodes in various systems, the abdominal and central nervous systems were the most affected. Luma and his colleagues, studying patients in Cameroon, found a prevalence of adverse drug reactions (ADR) of 19.5%, of which 21.2% were due to peripheral neuropathy.

Overall, 56.1% of the adverse reactions were attributed to the use of stavudine (d4T). Anemia has been observed as an adverse reaction in many ART patients, especially when taking zidovudine (ZDV). In order to expand HAART to those who needed it most, WHO launched the "3 million by 2005" initiative in 2003 with the aim of placing 3 million people living with HIV on HAART by 2005. In line with this initiative, the World Health Organization (WHO) has developed guidelines on antiretroviral therapy for resource-poor countries. The guidelines recommended a combination of two nucleoside reverse transcriptase inhibitors (NRTIs) and one nonnucleoside reverse transcriptase inhibitor (NNRTI) as first-line regimens in resourceconstrained settings. Access to antiretroviral therapy (ART) has improved tremendously over the last few years due to implementation and enforcement of various strategies by National AIDS Control Organization (NACO). NACO has established ART centres in selected government hospitals which offer free treatment for HIV/AIDS and related opportunistic infections. [17] In India, as of May 2009, there were 174 ART centres and 1,55,000 patients were on therapy. By 2012, National AIDS Control Program III (2007-2012) aims to increase number of ART centres up to 250 where 3,00,000 adults will be given free ART. In addition, 10 centres of excellence responsible for training, research work and mentoring of ART centres linked to them have been established across the country.[19] HAART

is the corner stone of management of patients with HIV/AIDS infection. Consistent use is vital for drugs to be effective and to prevent emergence of resistance. However, ARV drugs are highly toxic and are associated with various adverse Rajeev et al. incidences drug reactions (ADRs) due to which many patients require withdrawal of the drug or even discontinue the treatment resulting in treatment failure. Hence, monitoring and reporting of ADRs in HIV/AIDS patients receiving ART assumes great importance. There is paucity of data on ADRs to ART in Indian population. Keeping this in view, the present study was designed to identify the ADRs in patients receiving ART and to assess their impact on the compliance to the prescribed treatment.

CONCLUSION

HAART has decreased morbidity and mortality up to the expectation along with increasing considerable longevity of life of the HIV/AIDS patients. But all these antiretroviral drugs are highly toxic and associated with myriad adverse drug reactions and that too with a very high frequency. These ADRs are adding to the problem of non-compliance which in itself is a very big issue with ART. Hence, it is prudent to recognize these ADRs as early as possible in the course of treatment. This goal can be achieved by regular monitoring and reporting of ADRs which is indispensable for improving the treatment outcome. Still, our study, taken together with other available data, shows that ART should not be withheld from patients with severe anaemia if regimens containing AZT are either the only ones available or is preferred for other reasons. Our data suggest that setting a lower limit Hb, specifically Hb ≤8 g/dL, as a determinant of whether AZT-containing regimens should be prescribed may not be warranted. Low BMI (<18 kg/m2) and low MCV (<80fL) may be more useful in predicting which patients are at highest risk for AZT-induced anaemia. Finally, intensified TB screening of anaemic patients is warranted, as well as vigilance for TB after ART initiation.