Evaluation of the incidence of co-infections of Hepatitis B and/or Hepatitis C in HIV seropositive patients and the effect of Highly Active Anti-retroviral Therapy (HAART) on liver functions and presence of oral mucosal pathologies

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Human Immunodeficiency Virus (HIV) infection causes the acquired immunodeficiency syndrome (AIDS) which is now recognized as the great pandemic of the second half of the twenty first century. Approximately 37.7 million people are living with HIV at the end of 2020 (global statistics). As per the latest HIV estimates report (2019) of the Government India is estimated to have around 23.49 lakh people living with HIV/AIDS (PLHIV) in 2019. The HIV epidemic has an overall decreasing trend in country with estimated annual new HIV infections declining by 37% between 2010 and 2019.

Hepatitis B co-infection with Human Immunodeficiency Virus (HIV) is associated with accelerated progression to cirrhosis and thus a higher mortality. These viruses are the most common chronic viral infections all over the world and they share similar routes of transmission with sexual, parenteral and perinatal transmission being the most frequent modes of acquiring these infections, hence HIV-HBV co-infections are common. While HIV is Ribonucleic Acid (RNA) viruses and HBV is a Deoxyribonucleic Acid (DNA) virus; but they are similar in terms of how high they replicate in the body.

HAART (Highly Active Anti-retroviral Therapy) has extended the life expectancy of people with HIV, but liver diseases related to HCV and HBV complicate management of HAART, which is a leading cause of non-AIDS-related deaths in this population.

Prevalence of HCV & HBV co-infections in HIV patients in the world. According to WHO (World Health Organization). HIV-HBV co-infection: 7.6%.

Aim of Research:

To evaluate the incidence of co-infections of Hepatitis B in HIV seropositive patients and the effect of Highly Active Anti-retroviral Therapy (HAART) on liver functions and presence of oral mucosal pathologies.

Research Objectives:

1. To evaluate co-infection of Hepatitis B in Human Immunodeficiency Virus (HIV) seropositive patient.
2. To evaluate duration-based effect on liver functions due to Highly Active Anti-retroviral Therapy (HAART).
3. To evaluate the changes in levels of C reactive protein.

4. To evaluate incidence of oral mucosal pathologies in the HIV seropositive patients with co-infection of Hepatitis B.

Methods and Materials:

Source of data: The study consisted of 30 HIV sero-positive patients confirmed by Western Blot Test & on HAART (0-15 years) from Bharati Medical Hospital, Pune.

Method of data collection:

1. 3 ml of blood samples shall be collected during the routine hematological investigations by the routine venepuncture technique.
2. Blood samples will be tested for:
   a) Liver functions /Enzymes tests
   b) C reactive protein levels
   c) Hepatitis B surface antigen

Results: 02 HIV sero-positive patient was found co-infected with HBV. 12 HIV sero-positive patients on HAART were having elevated C-reactive protein levels. 02 HIV sero-positive patients co-infected with HBV had oral ulcers, 01 HIV sero-positive patient co-infected with HBV had hairy leukoplakia, 02 HIV sero-positive patients had lichen planus and oral thrush was present in all the 30 HIV sero-positive patients.

Conclusion: HIV sero-positive patients are more prone to co-infection with HBV, which may cause a variety of oral mucosal pathologies including potentially malignant lesions & malignant cancers. The HAART though increases the life expectancy of the HIV sero-positive patients, it leads to hepatotoxicity over a period of time. Hepatotoxicity along with co-infection with HBV could be life threatening in these individuals. Hence, the present study was undertaken to understand these effects in HIV sero-positive patients and/or co-infections as it is essential in early detection & formulation of any potential treatment plan.

Biography

Swapna Amod Patankar is an Assistant Professor (MDS) in the Department of Oral & Maxillofacial Pathology & Oral Microbiology at Bharati Vidyapeeth (Deemed to be University) Dental College & Hospital, Pune, India. She is currently pursuing PhD in the Faculty of Dentistry. She has an academic teaching experience of 20 years 10 months. She has carried out numerous research projects & has extensive research work on the HIV sero-positive individuals. She has numerous national & international publications to her credit & has also published 2 international books.

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