9TH INTERNATIONAL CONGRESS ON INFECTIOUS DISEASES

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Global Strategies & Innovative Techniques to Tackle Infectious Diseases, Prevention & Control

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

Dr. Swapna Amod Patankar (MDS), Assistant Professor, Department of Oral & Maxillofacial Pathology & Oral Microbiology, Bharati Vidyapeeth Deemed to be University, Pune, India.

Abstract:

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 and Hepatitis C co-infection with Human Immunodeficiency Virus (HIV), is associated with accelerated progression to cirrhosis and thus a higher mortality [1]. These viruses are the three 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-HCV co-infection and HIV-HBV co-

infection and/or both are common [2, 3]. While, HIV and HCV are both ribonucleic acid (RNA) viruses, HBV is a deoxyribonucleic acid (DNA) virus; but they are all 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 [5].

Prevalence of HCV & HBV co-infections in HIV patients in the world

- According to WHO (World Health Organization) 2018 [6,7]:

1. HIV-HCV co-infection: 39.4%
2. HIV-HBV co-infection: 7.6%

Aim of Research:

To evaluate 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.

Research Objectives:

1. To evaluate co-infection of Hepatitis B in Human Immunodeficiency Virus seropositive patient
2. To evaluate co-infection of Hepatitis C in Human Immunodeficiency Virus seropositive patient
3. To evaluate co-infection of Hepatitis B & Hepatitis C simultaneously in Human Immunodeficiency Virus seropositive patient

4. To evaluate duration-based effect on liver functions due to Highly Active Anti-Retroviral Therapy (HAART)
5. To evaluate the changes in levels of C reactive protein
6. To evaluate incidence of oral mucosal pathologies in the HIV seropositive patients with co-infections of Hepatitis B and/or Hepatitis C.

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

d) Hepatitis C antibodies

e) CD4 counts

Sr. No.	Diagnostic Parameter	Diagnostic Procedure / Method
1.	Liver Function/Enzyme Tests	1) SGOT (Serum Glutamic Oxaloacetic Transaminase) 2) SGPT (Serum Glutamic Pyruvic Transaminase)
2.	C Reactive Protein	C Reactive Protein Blood Level
3.	Hepatitis B surface antigen	Hepatitis B surface antigen ELISA diagnostic kit
4.	Hepatitis C antibodies	Hepatitis C antibody ELISA diagnostic kit
5.	CD4 count	CD4 Test

Results: 02 HIV sero-positive patients out of 30 were found to be co-infected with HCV. 01 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 HCV had oral ulcers, 01 HIV sero-positive patient co-infected with HBV had hairy leukoplakia, 02 HIV sero-positive patients had Lichen planus, Oral Thrush was present in all the

30 HIV sero-positive patients.

Conclusion: HIV sero-positive patients are more prone to co-infections with HBV and/or HCV, 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 and/or HCV 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.

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Organization Logo

Oral Presenter / Guest Speaker: DR. SWAPNA AMOD PATANKAR

Designation: Faculty (MDS)

Department: Oral & Maxillofacial Pathology & Oral Microbiology

University & Institute: Bharati Vidyapeeth Deemed to be University, Dental College & Hospital, Pune, Maharashtra, India

Phone number: 8007271777

Email address: swapna.patankar@gmail.com

DR. 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 Ph.D. in the Faculty of Dentistry. She has an Academic Teaching Experience of 20 years 6 months. She is a certified instructor of American Heart Association for Basic Life Support (BLS) and Advanced Cardiac Life Support (ACLS) & till date trained 374 participants. 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 02 International Books. She has been invited as GUEST SPEAKER to 06 National Conferences &

04 International Conferences. She has presented 04 YouTube Webinars. She has presented Papers & Posters at National & International Conferences & has won 3rd Prize for Best Scientific Paper Presentation at International Conference on Forensic Odontology (IASR) 2021 & 2nd Prize for Best Scientific Poster Presentation at International Conference on Oral Health & Dentistry 2021. She has been Chairperson for National & International Scientific Events. She has also been invited as a Panellist for National Scientific Event on Oral Cancer Advanced Diagnostics 2021.