

Background:

Co-infection of (TB) and Human immunodeficiency Virus (HIV) infection has remained a world-wide problem. Its rate peaked was in the 1990'S. HIV/AIDS and TB are considered as the double burden diseases of the world. In developing countries, particularly in Sub-Saharan Africa, TB is increasing due to the burden of HIV. This study aimed at viral load among adult Sudanese HIV positive patients, aging (>16 years), as a risk factor for TB. The data were expected to give an insight into the epidemiology of both HIV and TB infections in the Sudan.

Purpose:

This cross-sectional study, aimed at investigating the expression of high HIV RNA viral load among adult (>16 years) Sudanese HIV positive patients, as a risk factor for TB. The data were expected to give an insight into the epidemiology of both HIV and TB infections in the Sudan.

Methods:

A cross-sectional study was conducted in Omdurman HIV Center during the period between September 2020 and January 2021. Data were extracted from the patient's record. The study population was made on adult patients (> 16 years), who were diagnosed and started ART programs from 2018 and had viral load records. The data were collected by using questionnaire included age, gender, TB status (pulmonary and extra-pulmonary), HIV WHO clinical stage, method of TB diagnosis, HIV-RNA level. Results obtained were presented in tables and figures. The study received ethical approval, written consent; and confidentiality of record was obtained.



Results:

The obtained results indicated that all the 100 cases were HIV positive including 25% with positive TB. It was found that men were more infected than women; the ratio of males to females among the cases was found to be (1.5:1) which is comparable to the ratio among the controls which was found to be (1.6:1). The influence of age indicated that in the case group, the age group 30-40 years was the most affected (44%), while patients >50 years of age were the least affected (12%). In the control group, the highest affected was the age group of (40-50) years (29.3%), while the least affected was the (20-30) years group (21.3%). There was no statistically significant difference in the HIV viral load in patients with HIV/TB compared with that in patients with HIV alone, p value was 0.35. It was also found that the methods of TB diagnosis were correlated with the stage of HIV stage of infection p value was 0.02. It was also observed that stage II of HIV infection was predominant.

Conclusion:

HIV RNA was detected in all case group, and that 25% of the cases were TB positive. This indicates that on-going HIV replication, as presented by HIV RNA viral load, is an important risk factor for developing TB. HIV viral load monitoring in patients on ART can be an important tool to identify patients at highest risk of TB who would benefit most from long-term Isoniazid Preventive Therapy (IPT). It is very important to start ART in HIV-positive persons with a high viral load. New techniques for diagnosis of HIV and TB are needed. Routine testing for association between HIV viral load and TB infection, should be encouraged in HIV research.



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