

Survival Assessment Among Seropositive HIV Patients with Pulmonary Tuberculosis Undergoing Highly Active Antiretroviral Therapy Using Hematological Parameters and CD4 Count in a Hospital in Batangas, Philippines

Authors

DUNGCA, Kenneth Rodulfo¹
DETABLAN, Ella Joy Aban¹
CARINGAL, Clarisse Anne Evangelista¹
CAYUBIT, Kimberly Ann Avila¹
CRUZ, Jazmin Jerell Samson¹
DE GUZMAN, Naomi Jianne Bautista¹
DIAZ, Shella Mae Esteves¹
DIZON, Jannin Maui Gerardo¹
DOLORICON, Franchezka Denisse Atienza¹
SISON, Ron Christian Gatdula¹
NIETO, Xandro Alexi Ayonon²

Affiliations

1 - Department of Medical Technology, University of Santo Tomas - Manila
2 - Department of Science and Technology, University of Santo Tomas - Manila

Email address of corresponding author

kenneth.dungca.pharma@ust.edu.ph

Introduction

Recent studies have shown that hematological parameters are correlated with early mortality among individuals with Human Immunodeficiency Virus (HIV). This study aimed to assess the survival and risk of death among seropositive Filipino HIV patients with and without Pulmonary Tuberculosis (PTB) undergoing Highly Active Antiretroviral Therapy (HAART) using hematological parameters and CD4 count.

Methods

Retrospective analysis was applied to assess 80 randomly selected alive or deceased HIV-seropositive patients regardless of PTB co-infection and HAART status by utilizing results from the hematological parameters mentioned from January 1, 2014 to January 1, 2019 in a secondary hospital in Batangas. Subgroups consisting of seropositive-HIV patients considering PTB co-infection and HAART status were also analyzed. Collected data were subjected to statistical treatment using survival analysis, particularly the Cox proportional hazard regression.

Results

Regardless of HAART status and PTB co-infection, platelet count [HR = 0.987, 95% CI: 0.978 to 0.996, $p=0.006$] and CD4 count [HR = 0.984, 95% CI: 0.976 to 0.991, $p<0.001$] are significant factors for the risk of death among HIV patients.

Conclusions

Platelet and CD4 count are crucial predictors of the risk of death among HIV patients. A larger sample size, along with a 1:1 male-to-female ratio, suggest a higher probability of having more significant hematologic parameters for the assessment of the survival and risk of death among HIV patients regardless of PTB co-infection and HAART status.

Keywords: CD4 count, Co-infection, HIV, Pulmonary Tuberculosis