

Changes in cardiovascular risk and clinical outcomes in a HIV/AIDS cohort study over a one-year period at a specialized clinic in Mexico

Cibrián Angelica, Sánchez Miguel, García Sara, Pérez Eduardo, Bernal German, Castañon Migel, Jiménez Laura, Toledano Cairo

Abstract

The third report of the National Cholesterol Education Program guidelines recommend calculating the 10-year morbidity of atherosclerotic cardiovascular disease using risk calculators when treating high blood cholesterol in adults. We analyzed the changes in cardiovascular risk (CVR) among patients with human immunodeficiency virus (HIV) from México.

Materials and Methods

This observational, prospective cohort study compared the cardiovascular risk after one year of usual treatment among 460 HIV patients in México. Changes using the atherosclerotic cardiovascular disease risk estimator and changes in clinical outcomes were analyzed. The results were categorized as low or high CVR using a cut-off of 7.5%.

The cardiovascular risk at baseline showed a mean of $4.45\% \pm 6.1\%$ (0.2% to 50.1%), which changed to $4.48\% \pm 5.4\%$ (0.2% to 33.2) one year later. After cardiovascular risk stratification at baseline, we found that 84.3% of patients had a low CVR, and 18% of this group had metabolic syndrome. Moreover, 15.7% of this population was at high cardiovascular risk and 47% had metabolic syndrome. Approximately 4.3% of patients had a CVR increase and 2.6% had a cardiovascular risk decrease. Of the total patients, 22.3% had metabolic syndrome at baseline.

Citation: Cibrián Angelica, Sánchez Miguel, García Sara, Pérez Eduardo, Bernal German, Castañon Migel, Jiménez Laura, Toledano Cairo Changes in cardiovascular risk and clinical outcomes in a HIV/AIDS cohort study over a one-year period at a specialized clinic in Mexico. **protocols.io**

dx.doi.org/10.17504/protocols.io.mcqc2vw

Published: 19 Dec 2017

Guidelines

Third Report of the National Cholesterol

Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III) Final Report

Protocol

Observational and prospective cohort study in Mexico

Step 1.

An observational and prospective cohort study was conducted to compare the change in the cardiovascular risk (CVR) and clinical outcomes of people living with HIV after one year of usual treatment at a specialized clinic

Sample

Step 2.

The sample consisted of outpatients from the Retrovirus Clinic of the Regional General Hospital number 1 of the Mexican Institute of Social Security (IMSS) in Morelos, Mexico. Patients ≥ 18 years of age with complete clinical records who were registered at the clinic were eligible for study inclusion. The patients' clinical records were analyzed in February 2015 at baseline, and a second data analysis was conducted in February 2016.

Measurements and cardiovascular risk (CVR)

Step 3.

Each patient had a monthly medical appointment at the retrovirus clinic, where anthropometric and blood pressure measurements were taken by a nurse. The physician-specialist assessed the patient to complete a medical interview, physical examination and laboratory findings CVR calculation was performed using the atherosclerotic cardiovascular disease (ASCVD) risk estimator developed by the third report of the National Cholesterol Education Program and treatment of high blood cholesterol in adults (NCEP-ATP III) to quantify the estimated 10-year absolute ASCVD risk at baseline and after a one-year period. Considering the ASCVD risk estimator, a CVR value of 7.5% was considered as a cut-off point for this study because this percentage is used by the NCEP-ATP III as a reference to establish the intensity of lipid-lowering therapy

Data

Step 4.

At baseline, the following information was manually collected: HIV/AIDS diagnosis date; history of CVD; type 2 diabetes mellitus (T2DM) and hypertension diagnoses dates; cigarette smoking history; HAART regimen; and hypoglycemic, antihypertensive and lipid-lowering medication use.

The outcome variables evaluated in this study included: CVR assessment, clinical measures (systolic and diastolic BP, waist circumference, weight and height), laboratory values (fasting glucose [FG], total cholesterol [TC], high density cholesterol [HDL-C], triglycerides, CD4⁺ cell count and HIV-RNA viral load) and metabolic syndrome (MS) profile.

Statistics

Step 5.

Descriptive statistics (i.e., frequencies, percentages, medians, confidence intervals and quartiles) were calculated for the quantitative and qualitative data. Differences were determined using Student's paired t-tests with a 5% error for continuous variables. Pearson's χ^2 -test and Fisher's exact test were used to calculate 95% confidence intervals for categorical variables. The results are presented as the means with standard deviations (SDs), medians and quartiles. All statistical analyses were performed using Minitab version 17 for Windows [Statistical software, State College, PA].