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Predictive factors of atherosclerotic cardiovascular diseases events in HIV-HVC co-infected patients: results from hepavih ANRS co13 cohort

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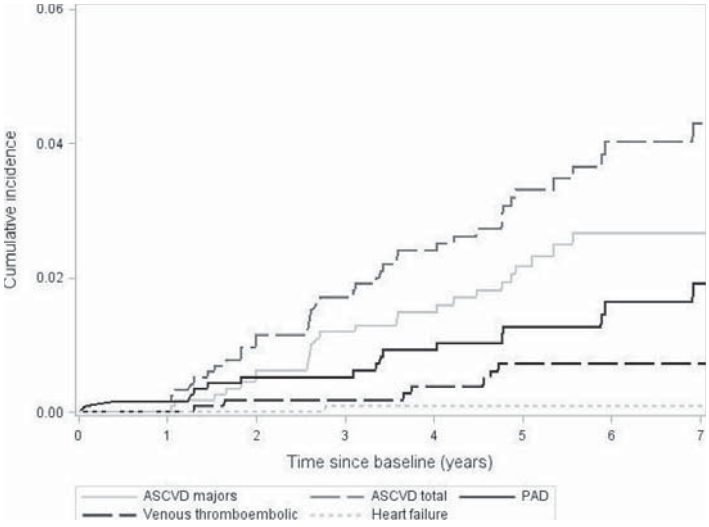
Introduction: Several studies highlighted an increased risk of cardiovascular disease (CVD) in HIV-HCV co-infected patients without clearly identifying specific virologic factors associated with atherosclerotic CVD (ASCVD) events.

Purpose: Hence, we analyzed data collection from the French nationwide ANRS CO13 HEPAVIH cohort to determine the incidence of ASCVD events in HIV-HCV co-infected patients and the predictive factors associated with its occurrence.

Methods: The French multicenter nationwide ANRS CO13 HEPAVIH clinic-based cohort collected prospective clinical and biological data from HIV-HCV co-infected patients followed-up in 28 different university hospitals between December 2005 to November 2016. Participants with at least one year of follow-up were included. Primary outcome was the occurrence of major ASCVD events (cardiovascular death, acute coronary syndrome, coronary revascularization and stroke). Secondary outcomes were total ASCVD events including major ASCVD events and minor ASCVD events (peripheral arterial disease [PAD]). Incidence rates were estimated using Aalen-Johansen method and factors associated with ASCVD identified with Cox proportional hazards models.

Results: A total of 1213 patients were included: median age 45.4 years [42.1–49.0], 70.3% men, current smoking 70.2%, overweight 19.5%, liver cirrhosis 18.9%, chronic alcohol consumption 7.8%, diabetes mellitus (5.9%), personal history of CVD 2.7%, and statins use 4.1%. After a median follow-up of 5.1 years [3.9–7.0], 44 participants experienced at least one ASCVD event (26 major ASCVD event, and 20 a minor event). Incidences for total, major and minor ASCVD events were of 6.98 [5.19; 9.38], 4.01 [2.78; 6.00], and 3.17 [2.05; 4.92] per 1000 person-years, respectively. Personal history of CVD (Hazard Ratio (HR)=13.94 [4.25–45.66]), high total cholesterol (HR=1.63 [1.24–2.15]), low HDL cholesterol (HR=0.08 [0.02–0.34]) and undetectable HIV viral load (HR=0.41 [0.18–0.96]) were identified as independent factors associated with major ASCVD events while cirrhosis status, liver fibrosis and HCV sustained viral response were not.

Conclusion: HIV-HCV co-infected patients experience a high incidence of ASCVD events both coronary and peripheral artery diseases. Traditional CV risk factors are the main determinants of ASCVD whereas undetectable HIV viral load seems to be protective. Management of cholesterol abnormalities and controlling viral load are essential to modify this high cardiovascular risk.



Cumulative incidence of CV events