

## CORONARY ATHEROSCLEROSIS IN PEOPLE LIVING WITH HIV (PLWH) AND UNDERESTIMATION OF GRACE RISK STRATIFICATION ON 5 YEAR MORTALITY

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**Background** With advances in antiretroviral therapy, most deaths in people with HIV are now attributable to non-communicable illnesses. The global burden of cardiovascular disease (CVD) in people living with HIV (PLWH) has tripled over the past 2 decades. A large meta-analysis suggests PLWH are twice as likely to develop CVD than the general population, however this data included a large proportion of individuals from sub-Saharan Africa and who were treatment naïve.

Data from the Swiss HIV Cohort Study suggests that PLWH have a similar degree of non-calcified/mixed plaque and high-risk plaque; less calcified coronary plaque; lower coronary atherosclerosis (CA) involvement; and lower severity scores than HIV-negative persons with similar Framingham risk scores.

The British HIV Association advocate the use of Q-Risk 3 risk stratification tool despite the fact that HIV was not found to be a significant risk factor in the development and validation of this tool. For our UK population of PLWH a paucity of data exists despite a belief that PLWH are at increased risk of coronary atherosclerosis and cardiac death.

**Aim** To assess survival after CA diagnosis and compare it to the general population.

**Methods** A retrospective analysis from a large metropolitan hospital, of PLWH with a confirmed diagnosis of CA on invasive coronary angiography. Information from the HIV database and coronary angiogram database were combined. Notes were checked using the electronic patient records and mortality data was obtained from the NHS spine.

The Global Registry of Acute Coronary Event (GRACE) risk scores were calculated at the time of CA diagnosis and survival rates were calculated using Kaplan–Meier analysis. These results were superimposed onto those from the UK-Belgium GRACE registry.

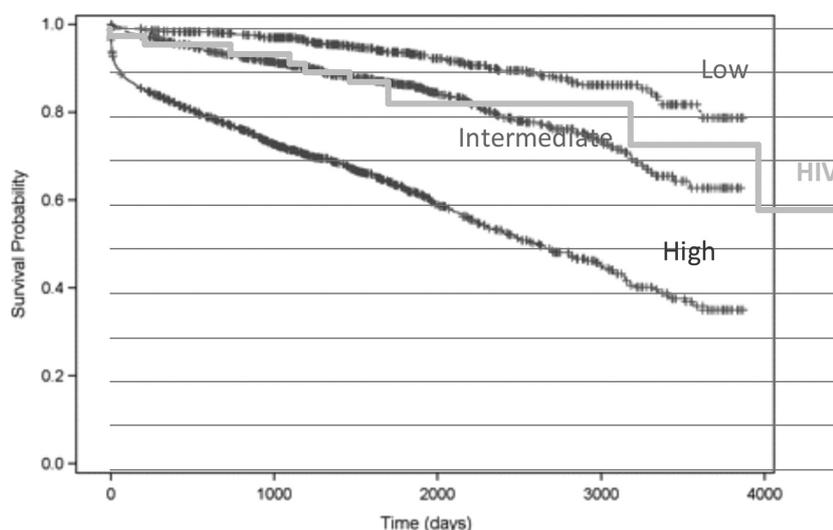
**Results** We identified 52 PLWH who were diagnosed with CA based on angiography. 48 (92%) were men, mean age at time of procedure 50.7 (SD ± 9.3) years. 26 PLWH had HIV viral load <50 copies/ml, 8 were detectable with a mean viral load 25, 564 million copies, median Nadir CD4 count 133 (IQR 69–197).

24 (46%) patients had an elective coronary angiogram, 13 (25%) had NSTEMI, 15 (29%) STEMI. 17 (32%) patients had hypercholesterolaemia, 8 (15%) hypertension, 9 (17%) were diabetics on oral medication, 3 (6%) on insulin, 24 (46%) ex-smokers, 7 (13%) smokers, 16 (31%) had known positive family history. Only 3 (6%) patients had renal failure on dialysis, the rest had a creatinine <200 mmol/L.

GRACE scores were performed on those with ACS (Acute Coronary Syndrome), 25 were categorised as low risk (<108) 3 intermediate risk (108–140) and none high risk (>140). Mean GRACE Score 80.7 (±19.6). Mean duration of HIV was 20.1 (±6.9) years, mean duration of follow up from procedure 2, 138 days. 8 patients died during this period (figure 1.)

**Conclusion** We present UK data on PLWH and demonstrate that, despite an initial low GRACE risk score, the long term survival rates over 5 years tracks that of an intermediate risk group. We propose that PLWH should be screened and treated aggressively for CA if identified. Our results may represent a sub-group of PLWH who have more aggressive CVD and over represented cardiovascular risk factors. These patients were diagnosed a long time ago with low CD4 nadirs, and may have had long periods of detectable viraemia. Further work on a current UK cohort is required.

**Conflict of Interest** None



**Abstract 157 Figure 1** Comparison of HIV cohort and GRACE UK–Belgian Study in people with ACS Survival according to GRACE score. Green = low risk, Red = intermediate risk, Blue = high risk (categories as in ESC Guidelines <108, 109–140, >140). Orange = HIV Cohort.