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Prevalence of cardiovascular risk factors in Spanish HIV-1-infected male inmates

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Purpose of the study

HIV-1-infected inmates have an increased prevalence of some particular comorbidities. However, the cardiovascular risk(CVR) of this population has rarely been evaluated.

Methods

Cross-sectional study carried out among 216 male HIV-1 patients in prison. Patients were stratified according to age(<34, 35-39, 40-44, 45-49, 50-54 and >55 years old, respectively)and their CVR was assessed by Framingham (FRAM) equation. The prevalence of some further risk factors was also evaluated: time on antiretroviral therapy, nadir CD4 count, maximum viral load(VL), time on undetectable VL, HCV-coinfection, and cocaine use.

Results

Patients median age was 41 years(36-46), their median CD4 count was 386(240- 549)cells, 68% had an undetectable(<50 c/mL)VL, median nadir CD4 count was 207(104-315)cells, and 48% of them had a nadir CD4 count <200 cells. HCV-coinfection prevalence was 94%, cocaine consumption prevalence was 93.1%, and 54.2% of them were intravenous cocaine users. The FRAM 10-years CVR score among subjects studied was 5.88%. Figure 1 and Table 1.

Age (p<0.001), total cholesterol (p<0.001), HDL cholesterol (p = 0.029), diabetes mellitus (p = 0.029), hypertension (p = 0.023), and nadir CD4 <200 cells (p = 0.04) were significantly associated with an increased CVR. Smoking, chronic HCV-hepatitis, cocaine use, and the HIV-1 VL were not significantly associated with an increased CVR. There is a trend towards an increased prevalence of hypercholesterolemia and hypertension paralleling the aging.

Conclusions

Using the FRAM scores, the median CVR of developing a cardiac event at 10 years in a population of Spanish
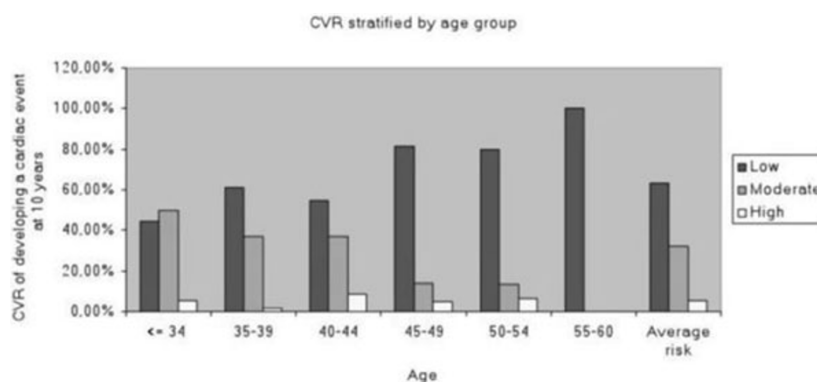

Figure 1 CVR stratified by age group.

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Table 1 Cardiovascular risk factors prevalence stratified by age group.

Age	Smokers	Diabetes	Hypertension	Tot Chol > 200	HDL Chol <39
<34	99,44%	0,00%	8,33%	13,89%	72,22%
35-39	100%	3,23%	8,07%	8,07%	43,55%
40-44	100%	3,60%	12,50%	23,20%	51,80%
45-49	100%	0,00%	4,65%	9,31%	60,00%
50-54	100%	26,67%	20%	13,34%	46,00%
55-60	100%	0,00%	75%	100%	0,00%
Overall prevalence	99,07%	3,70%	10,60%	15,27%	53,24%
P	0,455	0,029	0,023	0,001	0,029

HIV-1-infected inmate males is 5.88%. Of them, 5.1% have a high CVR, and are evenly distributed among age groups. The smoking prevalence is significantly higher than in non-inmate HIV-1 infected individuals, and is so high that it does not allow CVR differences among age groups. HCV-coinfection, cocaine use, and parenteral cocaine consumption were not associated with an increased CVR in our population. On the other hand, a lower nadir CD4 count was associated with high rates of CVR, thus supporting an earlier initiation of ARV therapy in HIV-1 infected males in the prison environment.

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