

Factors implicated in lipid profile control among HIV-infected patients in treatment with protease inhibitors

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Background

- HIV-infected patients have a higher cardiovascular risk (CVR) than the general population. However, there are not specific preventive interventions for lifestyle modification for this population group.
- In addition, those treated with protease inhibitors (PIs) may present also dyslipidemia and require a lipid-lowering-therapy with statins.

Purpose

- To evaluate which factors linked to CV disease are independently associated with achieving target lipid levels(TLL)(low density lipoprotein cholesterol<80mg/ml).
- As a secondary objective, to compare the results of CVR evaluation using two different CVR equations.

Material and methods

Prospective observational study performed in a tertiary university hospital from January-September 2017.

Inclusion criteria: HIV-patients over 40 years treated with PIs (atazanavir/darunavir) and for those taking statins, with a prior time of treatment of at least 6 months.

Data collected:

- Demographic data.
- CVR factors: diet, exercise, alcohol, stress, smoking, diabetes, hypertension.
- Clinical data: lipid profile, CD4 count, % patients with undetectable viral load (CV-IDL).
- Treatment data: PIs, statins, other lipid-lowering-drugs (LLD), and potential drug-interactions (DI).

Statistics: categorical variables, n (%); quantitative variables, mean \pm SD

Patients with and without TLL were compared. A binary logistic regression to identify factors independently associated with achieving TLL was used.

For CVR calculation, the REGICOR and the calculator of the American Society of Cardiology (ASCVD) were used.

Results

121 patients included: 99(81.8%) with darunavir/ 22(18.2%) atazanavir.

Age: 53.2(9.2) years; 91%(75.2) men.

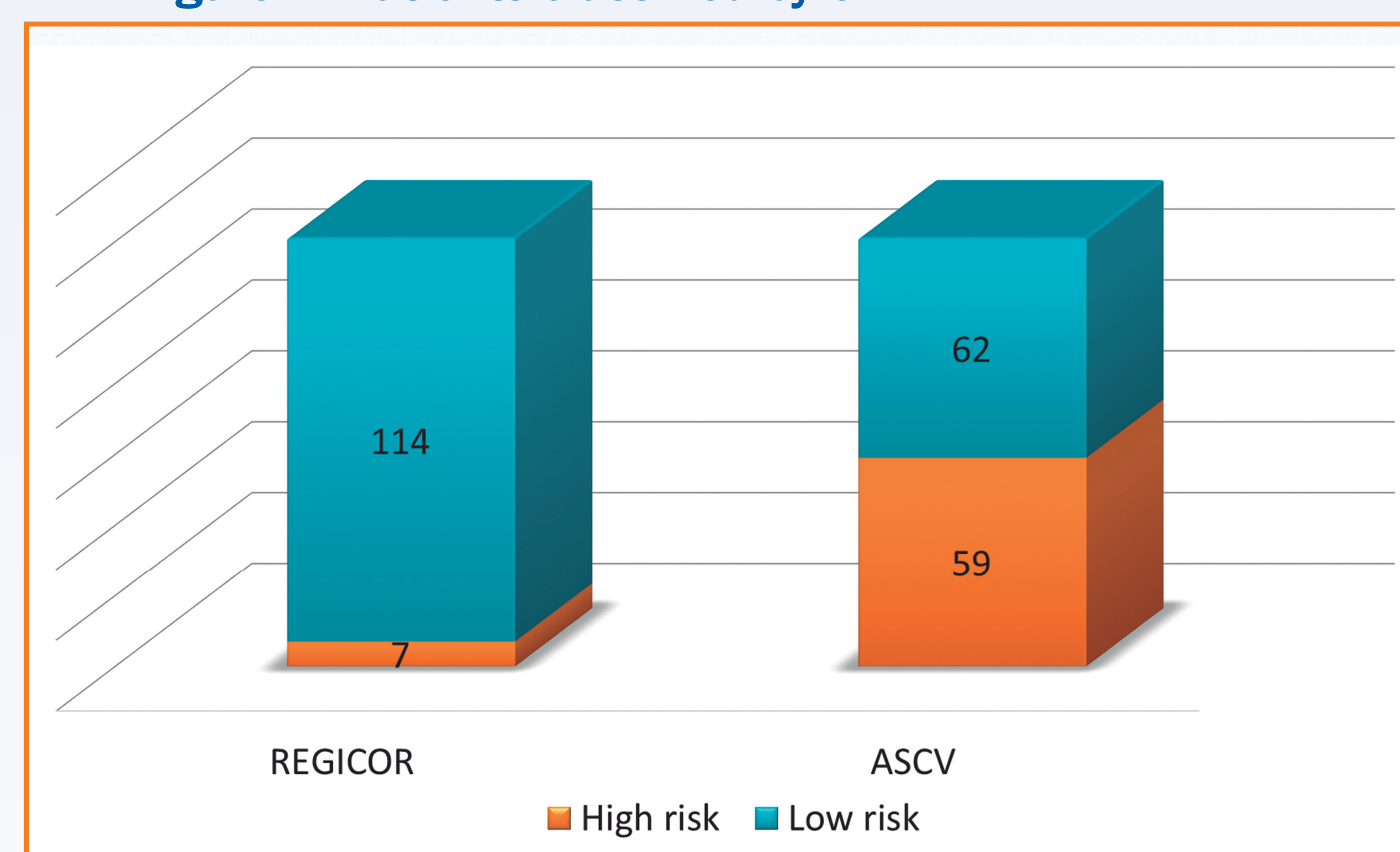
- Clinical data: Cholesterol (mg/dl):total:188.7(40.0), LDL-Cholesterol:119.0(32.1), HDL-cholesterol:47.1(14.9); triglycerides:159.0(105.2); CD4(cells/ μ L):722.6(350.4); % CV-IDL:104(86).
- Treatment data: statins:32(26.4); other LLD:9(7,4); Potential DI:32(26.4); Severe DI:3(2.5).

Table 1. Univariate analysis of factors between patients with and without TLL

	Patients with TLL n=35	Patients without TLL n=86	p
Diet adherence, n(%)	22(62.8)	35(40.7)	0.030
Exercise adherence ,n(%)	26(74.3)	69(80.2)	0.470
Alcohol, n(%)	18(51.4)	34(40)	0.251
Smoking, n(%)	23(65.7)	50(58.1)	0.440
Stress, n(%)	24(68.6)	41(47.7)	0.037
Diabetes, n(%)	3(8.6)	6(7.0)	0.762
Hypertension, n(%)	7(20)	14(16.3)	0.624
Statins treatment, n(%)	10(28.6)	22(25.6)	0.735

- Multivariate analysis: factors independently associated with TLL: diet adherence (OR 2.398(IC95% 1.038-5.541); p=0.038).

Figure 1. Patients classified by CVR



Conclusions

- Adherence to diet was the only factor associated with the achievement of the target lipid levels, which highlights the need to carry out diet education within the pharmaceutical care.
- A discrepancy in the estimation of CVR between the different scales was observed. The ASCVD scale classified a greater % of patients as having high CVR than the REGICOR.