Reviewer's report

Title: Carotid intima media thickness is associated with body fat abnormalities in HIV-infected patients

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Reviewer: Francesc Vidal

Reviewer's report:

General comment
Paula Freitas, et al. present here a study which deals on the relationship between HIV-related lipodystrophy and atherosclerosis in treated HIV-infected patients with several types of fat redistribution. The study group is made of 199 treated infected patients. Main findings of the study are that lipohypertrophy is associated with increased cIMT. The relationship between the lipodystrophy syndrome and accelerated atherosclerosis is not on fully established, since previous research show inconsistent results. Hence, this investigation offers information that should be welcome. There are however some aspects in the paper that need further clarification before a definitive recommendation is made.

Specific comments

Major comments
1. A common (and unresolved) problem when evaluating the effect of (or the relationship between) lipodystrophy and atherosclerosis is to assess the differential effects of antiretroviral drugs, of the own HIV, of the lipodystrophy syndrome itself, and of the different traditional risk factors such as insulin resistance, dyslipidemia, hypertension or smoking. In this paper a more accurate evaluation of smoking history would be of interest (quantitative, not simply qualitative). The qualitative assessment used by the authors provides uncomplete information. As example, we are not certain that patients with greater values of cIMT had heavier smoking habits than patients with lower cIMT.

2. Another confounding factor in your atudy is that patients with lipodystrophy were significantly older that patients without lipodystrophy. Age per se is a risk factor for atherosclerosis, as you correctly show in Table 2.

3. Results section, page 11, top: after adjustement for some confounding variables, mean cIMT values were NS different in patients with and without lipodystrophy. This recommends that your affirmation that cIMT is associated with lipodystrophy should be toned down.

4. Discussion is too large, there are many generalisations and commentaries regarding articles published elsewhere. It should be focused to discuss the authors’ findings regarding their interesting investigation. In my opinion it can be reduced to one half.
Minor comments
1. Please spell out several abbreviations (CV, cART, CV, CVD on page 4; FMR on page 5)
2. Discussion, page 11, first paragraph. The comments to Coll and Mercié papers should be reduced to a minimum.
3. Limitations: the qualitative assessment of smoking habits could be placed here. Since you investigated the effect of environmental variables on cIMT (HIV, lipodystrophy, age, etc...), the comment with respect to genetic determinants is not necessary.
4. Table 1 is large and heterogenous (clinical, analytical, drug use, metabolic data put together). Could you subdivide and categorize?

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I have no competing interests