Antiretroviral therapy has increasingly improved management of HIV infection, ensuring long-term efficacy and tolerability. Each class of antiretrovirals has however different characteristics and different tolerability profiles. Literature data show that protease inhibitors (PIs) are associated with higher incidence of dyslipidemia.\(^1\)

**AIM**

The aim of our study is to evaluate whether patients treated with PIs have both greater dyslipidemia and increased IMT and atheromatous plaques compared to patients treated without PIs.

**METHODS**

To evaluate the association between PIs and dyslipidemia associated with increased IMT, we enrolled 110 HIV-experienced patients in a retrospective observational study. All enrolled patients were screened with Doppler ultrasonography of the supra-aortic trunks in 2019. Patients were divided into 2 groups, 59 in the Cases group, treated with PIs and 51 in Controls without PIs (Fig. 1). In the 2 groups we evaluated lipids, cardiovascular risk factors (smoking, BMI, age, hypertension), increased IMT and eventual atheromatous plaques, assessed by Doppler ultrasonography (Table 1 and 2). We also performed a binary logistic regression analysis to assess the association of several patient factors (age, sex, BMI, smoking, PIs regimen), to plaque appearance but without founding any significance (Table 3).

**RESULTS**

Analysis of the data showed a clear association between the Cases group and dyslipidemia, although statistical significance was not achieved (Fig. 2). Similarly, we observed a clear association between Cases and the evidence of increased IMT and plaques (Fig. 3). In particular in the evaluation of left sections of carotid artery, Cases showed higher percentage of increased IMT than Controls (p 0.02)(Table 2).

**TABLE 2**

<table>
<thead>
<tr>
<th>Group</th>
<th>Total</th>
<th>No of patients</th>
<th>BMI</th>
<th>WC</th>
<th>BP</th>
<th>HbA1c</th>
<th>Lipids</th>
<th>St. Lipids</th>
<th>IMT</th>
<th>Number of plaques</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases</td>
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<td></td>
<td></td>
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<td>Controls</td>
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</table>

**TABLE 3**

<table>
<thead>
<tr>
<th>Cases</th>
<th>No of patients</th>
<th>BMI</th>
<th>WC</th>
<th>BP</th>
<th>HbA1c</th>
<th>Lipids</th>
<th>St. Lipids</th>
<th>IMT</th>
<th>Number of plaques</th>
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**CONCLUSIONS**

In conclusion, our real-life data, although partial, show that patients treated with PIs have a trend to develop both greater dyslipidemia, in accordance with the literature, and increased IMT and atheromatous plaques compared to patients treated without PIs. Our data reach statistical significance only for evidence of increased IMT in the left sections of carotid artery in Cases group. These findings however could be useful to optimize the therapy of patients with cardiovascular risk factors.

**REFERENCES**


**DISCLOSURES**

The authors declare to have no conflicts of interest.

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**FIGURE 1**

Adopted regimens

**FIGURE 2**

Dyslipidemia in 2 groups

**FIGURE 3**

IMT and Plaques in 2 groups