BACKGROUND

- Current treatment recommendations for HIV-1 infection suggest first-line therapy based on a single or ritonavir-boosted PI regimen, or alternatively a NNRTI-based regimen.
- Results from clinical trials comparing these strategies tend to be based on the short-term virologic response (i.e., 24 or 48 weeks) and have provided conflicting results.
- Results from observational studies have suggested that a single PI-based regimen may have a poorer short-term virologic outcome.
- It is crucial to consider not only 24 or 48 week response, but also longer-term virologic or immunologic outcomes.
- Few published studies have considered the long-term immunologic response, despite this being one of the best markers for clinical disease progression.

OBJECTIVES

- To compare both the short- and long-term virologic and immunologic response to cART in previously ART naïve patients according to the regimen.
- To describe treatment discontinuation rates among patients starting cART for the first time.

METHODS

- **European countries, Israel and Argentina:**
  - All treatment-naïve patients who started cART after 1/1/2000 (2 NNRTI vs. 1 PI, PI boosted (i.e., ritonavir boosted) or NNRTI) were included in this analysis.
  - Patients with a CD4 count and VL prior to starting cART were included in these analyses.
  - Patients with no follow-up after starting cART were excluded.
  - All analyses used forward selection with entry criterion p<0.1 to identify variables associated with each of the outcomes.
  - Model selection was confirmed using backward selection. CD4 count nadir, CD4 at last measurement equal failure). Patients without the potential for at least 3 years FU were excluded (n=269).

RESULTS

- **Characteristics of the patients at initiation of cART**
  - Table 1 shows the characteristics of the patients at initiation of cART, divided into single PI, boosted PI, and NNRTI regimens.
  - Table 2 shows the short-term virologic and immunologic response at 24 weeks.
  - Figure 1 shows the Kaplan-Meier estimates and Cox models with entry criterion p<0.1 to identify variables associated with each of the outcomes.

SUMMARY AND DISCUSSION

- This study included more than 800 ART naïve patients who started cART after January 2000.
- Compared to patients starting a NNRTI-based regimen,
  - patients starting a single PI-cART regimen were less likely to achieve virologic suppression and were more likely to have a VL >1000 copies/ml at 3 years after starting cART.
- Compared to patients starting a NNRTI-cART regimen,
  - patients starting a boosted PI-cART regimen had similar short and long-term virologic and immunologic outcomes. They were more likely to achieve a short-term immunologic response, whereas there were no significant differences in risk of not achieving an increase at least 50 CD4 cells/mm³ after 3 years.
- These results should be interpreted with caution because of the potential biases associated with observational studies.
- It is reassuring to note that the results from an observational setting are consistent with those from INITIATE, a randomized trial.
- Ultimately, clinical outcomes, such as new AIDS diagnoses or death, will be the measure of efficacy of CART regimens, which requires the follow-up of a very large number of patients over many years.