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CAB, a class Ia inhibitor, and lopinavir (LPV), a class II protease inhibitor, are currently under development as a LA formulation. This study randomized Phase 2 clinical trial showed that mDCI (a daily oral ART) was noninferior to CAB+RPV LA in relative efﬁcacy for virologic suppression in a population with HIV-1 RNA ≥100,000 copies/mL.

The results from this study support the safety and efﬁcacy of CAB+RPV LA for the maintenance of virologic suppression, and further support the development of CAB+RPV LA as a potential option for long-acting ART.

**Background**

- Despite the success of daily ART, challenges still exist in some patients around stigma, pill burden, and adherence. Therefore there is considerable interest in developing long-acting injectables.
- CAB, a class Ia inhibitor, and lopinavir (LPV), a class II protease inhibitor, are currently under development as a LA formulation. This study randomized Phase 2 clinical trial showed that mDCI (a daily oral ART) was noninferior to CAB+RPV LA in relative efﬁcacy for virologic suppression in a population with HIV-1 RNA ≥100,000 copies/mL.
- The results from this study support the safety and efﬁcacy of CAB+RPV LA for the maintenance of virologic suppression, and further support the development of CAB+RPV LA as a potential option for long-acting ART.

**Endpoints**

- Established a dosing window of 28 days of mDCI (a daily oral ART) and 28 days of CAB+RPV LA.
- The proportions of patients with virologic suppression at week 48 between the two groups were similar.

**Study Design**

- The FIREFLY-FLAIR study was a randomized phase 2 double-blind trial with CAB+RPV LA. After 14 weeks, participants with mDCI (a daily oral ART) were eligible to enter the maintenance phase and were randomized to either CAB+RPV LA or mDCI.
- The participants had to be ≥18 years old and had to be naive to ART at baseline.
- The study was conducted in 47 centers in 7 countries.

**Results**

- During the maintenance phase, virologic suppression was maintained in the CAB+RPV LA group, with no virologic failures observed.
- There were no differences in the safety and tolerability of CAB+RPV LA compared to mDCI.

**Conclusions**

- CAB+RPV LA is a potential alternative to daily ART for the maintenance of virologic suppression in patients who are naive to ART.
- CAB+RPV LA is well-tolerated and has a similar safety profile to mDCI.
- CAB+RPV LA could potentially improve adherence and reduce the pill burden for patients.