Background

- Long-acting injectable cabotegravir (CAB) is a slow-release transdermal injectate currently in development for HIV prevention and treatment.
- Hormonal contraception is crucial for women of reproductive potential who are at risk of HIV to prevent the vertical transmission of HIV.
- Unexpected drug-drug interactions between ART and hormones for contraception or co-therapy treatment have been noted in several previous studies.
- Oestrogen-containing contraceptives containing ethinyl oestradiol and medroxyprogesterone acetate have been associated with lower HIV/AIDS incidence and AUC-95% and 246% respectively, p<0.001.
- Metformin only has been shown to increase intrahepatic levels of tenofovir-diphosphate concentrations in contrast CDT-T, reducing in无线 anti-HIV activity of TFV.
- Estrogen or oestrogen antagonists use have been noted to result in 33%-56% reduction in tenofovir-exposure (AUC).
- In a field-based case-control study, CAB was shown to have no impact on oral oestrogenal levels or levonorgestrel.
- Contraceptive use, contraceptive type and select PK parameters: Log (Cmax), Log (AUC) and Log (T1/2).

Methods

- Study population and design: All women enrolled and randomized to CAB in HPTN 077.
- Participants received CAB 30 mg orally daily x 4 weeks, followed by a 4-week washout period, then CAB 4-weekly for 3 months.
- Patients followed 12-14 days subsequent to each injection.

Statistical analysis

- Linear regression was used to estimate pharmacokinetic (PK) parameters between hormonal contraception (yes or not based on self-report) and contraception type, paired comparisons, interaction terms.
- All women not using reproductive potential were a hormonal contraception.
- Linear model was used to adjust associations of hormonal contraception between Cmax, Cτ, and AUC in order to account for correlations of these PK parameters across individuals.
- Linear regression analysis was adjusted for Cmax, Cτ, and AUC in order to account for correlations of these PK parameters across individuals.
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Results

- Multivariate analysis assessed baseline covariates associated with PK parameters.
- Values ≤ 0.05 were considered statistically significant.

Conclusions

- Among HIV-infected females in HPTN 077, use of hormonal contraception (regardless of type) did not alter the CAB CA profile during injections or during the pharmacokinetic on lavu without contraceptive measure.
- In the subpopulation sample analysis, there was an effect of a 2.01 fold change for Cmax (log Cmax), 2.16 fold change for log (AUC), and 2.1 fold change for log (T1/2) with 80% power using a 5% type 1 error rate for any hormonal contraception use in an.
- No significant associations were found between CAB PK and contraceptive use in the analysis.
- Future research regarding the effect of CAB on oral hormone levels and gender的不同therapy is warranted.