Study Category

Pharmacokinetics in HIV infected Women

Title

Predictors of antiretroviral pharmacokinetics in HIV-infected women with virologic suppression on combination antiretroviral therapy

Principal Investigator at TGH

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Sponsor

CIHR

Brief Description of Study

It is believed that higher drug levels of the ARV agents is one of the major contributing factors in the increased rate of drug-related AEs and toxicity in women on cART. One study suggested that C_{max} was higher in women and that these elevated drug levels are associated with increased toxicity in women. However, when controlled for confounders, this significance was lost.
Therefore, there appears to be a trade-off for females infected with HIV who are taking ART: better suppression of virus for increased toxicity. Due to the fact that most of the ARV therapies were developed around male tolerance and efficacy parameters, with very few females involved in the drug development stage, physicians are forced to abide by prescribing doses of ARV agents that are likely too high for women. The better VL response and higher AEs have been shown to be related, in part, to higher ARV drug levels. Therefore, a study to assess the use of TDM in HIV-infected women on cART, to adjust ARV drug doses based on the measured plasma ARV concentrations, and to assess if drug-related toxicities and AEs can be reduced with this technique, would be both useful to clinicians and crucial to female patients. However, it is critical to collect more data in order to understand both ARV drug levels and their predictors in women as well as the relationship of the ARV drug levels and AEs before such a clinical trial is carried out. Ultimately, we are planning to carry out such a randomized clinical trial (RCT) to assess the utility of TDM and ARV drug dose adjustment on the frequency of AEs in women. Therefore, this current research project is a precursor to this RCT to obtain additional information on ARV drug levels in women and their relation to AEs since this area is poorly understood and is in desperate need of more work as all current PK studies in women consist of very small sample sizes. Furthermore, understanding ARV drug levels and their relationship to AEs in women is considered a vital issue to the female HIV community as it would lead to the optimization of their care.

Contact Person

Enrollment expected to begin Late August early September 2006
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