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Effect of hormonal contraception on HIV disease progression among HIV positive women: A study in Tehran, Iran

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Objectives: Reproductive health services including family planning programs are of prominence among HIV-infected women to reduce the risk of unintended pregnancies and mother-to-child transmission. However, the use of hormonal contraception (HC) is controversial regarding its effects on disease progression and potential interactions with antiretroviral drugs. The increasing number of HIV-infected women and paucity of information on the potential effects of this method among Iranian women obliged us to perform the present study.

Methods: In a historical cohort, demographic, medical, and reproductive profiles of all female HIV-infected patients enrolled in the HIV Clinic of Imam Khomeini Hospital were evaluated. Patients receiving hormonal contraceptives and using condoms were selected; those who had no intentions for pregnancy for at least a year and at least 3 months post-partum, were invited to be re-evaluated for possible contraindications of HC use and abnormal Pap smear findings. In total, 28 patients were selected as case group and were compared with a matched control group of female patients who had consistent condom use. In six months (patients to be followed for another 6 months afterwards) HIV disease progression was monitored considering time to a CD4 cell count below 200, time to initiation of antiretroviral therapy, an increase in HIV-RNA viral load, significant decrease in CD4 count, and death.

Results: From 50 HIV infected women with completed primary work up and follow up checklists in a 9 months period, a repeated measures ANOVA determined that the mean HIV-1-RNA plasma viral loads differed significantly between time points among patients using hormonal contraceptives ($p < 0.05$). The mean CD4+ T-cell counts also, differed significantly between time points with an increasing trend among hormone users with dual contraception ($p < 0.001$), while no significant changes observed among condom users ($p > 0.05$). Represented in table 1, is the number of patients on HC whose CD4+ T-cell counts were less than 200 in each time point. Mean age of our patients was 31.34 (21-51) years and mean years from confirmed diagnosis was 4 years. Adherence to antiretroviral therapy (ART) has been correlated strongly with using hormonal contraceptive. The prevalence of abnormal Pap smear findings among the two groups was as follows: 16% ASCUS (atypical squamous cells of undetermined significance), 9.2% LGSIL (low-grade squamous intraepithelial lesions), and 1.3% HGSIL (high-grade squamous intraepithelial lesions). More Regular menstruation cycles were reported during our follow up among patients using HC (8.7%); we had two cases of unintended pregnancy among patients only using condoms. HC discontinuation was associated with experiencing side-effects, lack of husband's support in OC use. Adequate counseling about how to properly take HC decreases rates of discontinuation.

Conclusion: Using hormonal contraception as dual protection has shown to be acceptable among our participants. Professional counseling is essential to reduce unplanned pregnancies and hence mother-to-child transmission rates. HC has shown no significant effects on disease progression among women using antiretroviral drugs.

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