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**The effects of HIV infection and antiretroviral therapy on ovarian reserve and IVF success****Tasneem Mohamed**

BioART Fertility Centre, South Africa

**Background:** The effects of antiretroviral therapy and the primary HIV infection on ovarian reserve remain unknown and much controversy exists in the literature.

**Objectives:** To investigate the relationship between HIV infections, antiretroviral therapy and CD4 lymphocyte counts on the ovarian reserve.

**Materials & Methods:** A retrospective cohort study was conducted at a fertility centre in Johannesburg. The study group comprised of HIV positive patients undergoing IVF treatment. The control or matched groups were HIV negative patients who were also undergoing IVF treatment. The study group was further subdivided into patients on ARV treatment and those who were not on treatment. Comparisons were made between the two groups with regards to ovarian reserve, using AMH levels and AFC as biomarkers and pregnancy outcomes. Comparison was also made between the two arms of the study group looking at the effects of CD4 counts and viral loads on the outcome measures.

**Results:** A total of 79 study patients underwent IVF treatment, 75 achieved embryo transfer and 21 pregnancies were obtained. Of the patients who achieved pregnancy only one had a CD4 count <200. Of the 21 patients, 9 (43%) were not on prior ARV treatment and 12 (57%) were on ARV treatment. The HIV seropositive group had statistically lower AMH levels when compared with expected age related AMH levels (p-value 0.011). Comparing the two arms in the study group, treatment with ARV therapy was not noted to statistically affect AMH levels. Significantly fewer pregnancies were noted in the HIV group (28% vs. 34.5%) and there were more pregnancies amongst those on ARV treatment compared with those who were not but this was not statistically significant (57% vs. 43%).

**Conclusion:** The mechanism by which HIV infection influences AMH and ovarian reserve remains speculative. In our study we demonstrated that HIV infection has a negative effect on ovarian reserve and the fact that the majority of those who conceived had a CD4 >200 suggest that CD4 counts may influence conception.

tm.mohamed@yahoo.com