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## Prevalence of anemia before and after initiation of antiretroviral therapy on HIV infected patients at Ras Desta Damtew Memorial Hospital, Addis Ababa, Ethiopia

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**Objective:** The aim of this study is to determine the prevalence of anemia before and after initiation of antiretroviral therapy (ART) in HIV infected patients.

**Method:** A retrospective study was conducted on HIV infected patients before ART and was on follow up at the ART Clinic of Ras Desta Damtew Memorial Hospital Addis Ababa, Ethiopia. Hemoglobin, Hematocrit, Red Cells and Red Cell Indices measurement and CD4+ T cell count was measured using standard methodology at baseline and after every 4 months of Three Visit antiretroviral therapy (ART). Paired t-test was used to assess mean differences for Hemoglobin, Hematocrit, Red Cell and CD4+ T cell count before and after ART initiation.

**Results:** Prevalence of anemia at baseline was 24.1 % (261/1082). However, prevalence of anemia after ART was significantly decreased in all three visits as follows; first visit of ART was 11.98% (134/1118) ( $p < 0.05$ ), after second visit was 9.33% (91/975) ( $p < 0.05$ ), after third visit was 2.85% (23/805) ( $p < 0.05$ ). The prevalence of anemia was higher in females than in males at baseline (62.9%

vs. 37.1%) ( $P = 0.00$ ), and after first visit of ART (15.66% vs. 5.76%) ( $P = 0.00$ ), after second visit was (9.61% vs. 8.83%), after third visit was (3.39% vs. 1.81%) ( $P = 0.00$ ). Mean CD4+ T cell count of study subjects was 139 cells/ $\mu\text{l} \pm 96.21$  ( $P < 0.05$ ) at baseline. The mean CD4+ T cell count is significantly increased after ART in three visits and found to be after the first visit of ART was 244 cells/ $\mu\text{l} \pm 135.4$  ( $P < 0.05$ ), after the second visit was 294 cells/ $\mu\text{l} \pm 169.79$  and after third visit 354 cells/ $\mu\text{l} \pm 182.8$  ( $p < 0.05$ ). Significance association was observed between Hgb, Hct and CD4+ T cell count after ART.

**Conclusions:** The prevalence of anemia based on the hematological parameter (Hgb, HCT) decrease after the initiation of ART except for RBC count. At the same time, mean CD4 cell count significantly increased among patients who started ART. This indicates that the use of HAART in HIV/AIDS patients significantly increase CD4 count and decrease viral load along with decreasing prevalence of anemia.

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