

## **Role of Biomarkers in Progression of HIV Infection and Monitoring of Adherence of Art Regimens and its Prognostic Efficiency**

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### **ABSTRACT**

**Background:** Highly active antiretroviral therapy (HAART) can suppress HIV replication for extended period resulting in substantial reductions in mortality in HIV infected patients. HAART –treated person living with HIV continue to experience a relatively high incidence of malignancy, cardiovascular diseases, metabolic, inflammatory and liver diseases .Inflammation, coagulation and immunological abnormality is the leading cause of morbidity and mortality in HIV infected individual.

**Methods:** Participant in trial with IL 6 measured at baseline were included 9864 patient and factor associated with IL 6 were identified and CD4 count and HIV RNA level were investigated .the co morbid conditions were also considered .

**Result:** Base line or before event onset elevation of IL- 6 OR hsCRP were also predictive of opportunistic disease in 91 case in SMART study.

**Conclusion:** Elavation of certain inflammatory, coagulopathic biomarkers, immunological and some genetic allelic agent use for prediction of prognosis and diagnostic tool in PLHIV patients. That are given bellow:

A – Inflammatory marker- IL-1, IL6 and hs CRP

B- Coagulation- D –dimer

C-T-CELL –CD4 T CELL, CD8 TCELL AND T reg cell.CD-14 T CELL

D-Chemokine –CC CHEMOKINE, IP-10

E–Gene and alleles –APO –E GENE, HLA ALLELS

G-Genetic material –HIV RNA

Elavation of certain inflammatory or coagulopathic biomarkers as IL6 ,HS CRP AND D-dimer have independently associated with mortality .CD4 T CELL and CD8 Tcell are used for prediction of progression of disease and occurrence opportunistic infection. HLA ALLELS have the tendency to predict for HIV occurrence or remain inactive stage. APO E gene can predict to having the degenerative brain diseases and cognition disease.

**Keywords:** HIV, IL-6CD4, HIV RNA, HAART and SMART

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