CART ATTENUATES HEPATIC ECM-REMODELING IN HIV-PATIENTS ASSESSED BY NOVEL PROTEIN FINGERPRINT MARKERS

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Objectives: Combined antiretroviral Therapy (cART) attenuates hepatic fibrosis in hepatitis C (HCV) and human immunodeficiency virus (HIV) co-infected patients. However, the role of HIV or cART on hepatic fibrosis in HIV mono-infection is discussed controversially. During liver fibrosis matrix metalloproteinase’s (MMP’s) degrade extracellular matrix (ECM) proteins into small soluble fragments, which serve as biomarkers for hepatic remodeling processes. This study used these novel biomarkers to investigate the effect of HIV and cART on hepatic fibrosis remodeling. Design: We included and evaluated 249 patients with HIV mono-infection in comparison to 13 healthy controls. Using specific ELISAs we determined the serum levels of MMP-degraded collagen type III (C3M), biglycan (BGM), elastin (ELM), as well as the formation marker 7S (P4NP 7S), and MMP-degraded collagen type IV (C4M) and measured high sensitive C reactive protein (hsCRP). Results: C3M, BGM, C4M and P4NP 7S were significantly elevated in HIV patients compared to controls and correlated to HIV viral loads and inversely to cART duration. C4M, P4NP 7S and ELM were lower in patients under cART therapy, indicating that lowering of the HIV load by cART attenuates remodeling of ECM. By contrast, the levels of hsCRP remained unchanged. Conclusion: Specific therapy of patients with HIV mono-infection also beneficially influences liver fibrosis. These novel markers of liver fibrosis remodeling may help to monitor the hepatic effects by HIV therapy.