

## **The Role of sCD14, sCD163, IP10, and IL-6 in Immune Dysfunction During HCV infection and Aging with a View into Clinical Parameters**

**Palvir Baadh, BS<sup>1,2</sup>**; Carey Shive, PhD <sup>1,2</sup>; Donald Anthony, MD, PhD<sup>1,2</sup>

<sup>1</sup>Case Western Reserve University School of Medicine, Division of Infectious Diseases and HIV Medicine, <sup>2</sup>Louis Stokes Cleveland VA Medical Center

Hepatitis C, a hepatic viral infection, affects millions of individuals worldwide and is recognized as a global health issue. This infection eventually progresses to a chronic liver disease state leading to complications such as cirrhosis and hepatic carcinomas. Although significant medical advances have occurred for treatment of Hepatitis C virus (HCV), many patients remain untreated and previous liver damage often persists and contributes to morbidity. It is known that chronic inflammatory conditions due to HCV infection, and others including HIV infection, diabetes mellitus, and autoimmune diseases are associated with cardiovascular disease. Understanding the underlying specific inflammatory conditions within the HCV population that may be contributing to CVD may lead to better patient health management and outcomes. Current studies in our laboratory have found a link between inflammation and poor vaccine responses in HCV and HIV infected participants. We have also found that in HCV infection AST levels are positively associated with plasma levels of sCD14 and sCD163 and serum albumin levels negatively associate with plasma IL-6 levels. In our current study, we propose that increased plasma levels of sCD14 and sCD163, both markers of monocytes/Kupffer cell activation are correlated with coronary artery disease (CAD) and red cell distribution width (RDW) in chronic HCV infection and that older age may also contribute to monocyte/Kupffer cell activation. Secondly, we will examine soluble markers of inflammation (IL-6 and IP10) and their association with liver health in HCV infection and the elderly.