Leading up to World Hepatitis Day,
FDA's Office of Minority Health Lecture Series presents:

"Advances in Hepatitis C Treatments"

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Dr. Charles D. Howell is Professor of Medicine and Chairman of the Department of Medicine at the Howard University College of Medicine and Howard University Hospital. A native of Alabama, Dr. Howell received a Bachelor of Science degree in Biology from Tuskegee Institute and the Doctor of Medicine degree with honors from Howard University. He completed an Internal Medicine residency at the Baylor College of Medicine Affiliated Hospitals in Houston, TX (1982-85) and a Gastroenterology and Hepatology fellowship at the University of Colorado Health Sciences Center (UCHSC) in Denver, CO (1985-88). He is board certified in Internal Medicine and Gastroenterology.

In 1988, Dr. Howell joined the faculty at the UCHSC as an Assistant Professor of Medicine. During his tenure at Colorado, Dr. Howell was a recipient of the prestigious Robert Wood Johnson Minority Medical Faculty Development Program fellowship and the NIH FIRST awards. In 1994, Howell joined the University of Maryland School of Medicine faculty as Associate Professor. As the founding Director of Hepatology and Medical Director of Liver Transplantation, he was instrumental in building a successful transplant hepatology program. Dr. Howell has published more than 60 journal articles, book chapters and reviews and is recognized nationally for his medical expertise and research accomplishments. In addition, he has been a frequent lecturer at national meetings. Moreover, he has mentored many students, residents, fellows and junior faculty members during his career. He is a fellow of the American Gastroenterological Association (AGA) and the American Association for the Study of Liver Diseases (AASLD), and a member of American Transplantation Society and Association for Academic Minority Physicians. Dr. Howell has served on many professional society committees, and previously chaired the AGA Committee on Under-represented Minorities and the AASLD Public Policy Committee. He has been a member of numerous National Institutes of Health study sections and the editorial boards of Hepatology, Clinical Gastroenterology and Hepatology, Current Hepatology Reports, and the World Journal of Gastroenterology.

Dr. Howell has had a long-standing research interest in racial disparities in liver diseases, with a focus on chronic hepatitis C virus (HCV) infection and primary liver cancer. He will direct a new interdisciplinary viral hepatitis program at Howard University that will work to reduce the burden of hepatitis in the Washington metropolitan area through high-quality patient care, education, research, and community service.

Dr. Howell's research activity has been funded by the National Institutes of Health, private foundations, and private corporations. From 2000-2007, Howell chaired the Steering Committee for the study of viral resistance to antiviral therapy for chronic hepatitis C (VIRAHEP-C). He was one of eight principal investigators for this NIH-sponsored, multicenter study, which investigated the basis for the lower efficacy of interferon and ribavirin therapy for hepatitis C in African Americans compared to White Americans. From 2011-2013, he co-chaired the National Medical Association's Task Force on Hepatitis C in African Americans.

Lecture Abstract

Chronic hepatitis C virus (HCV) infection is the most common blood borne infection in the United States of America, with at least 3-4 million persons infected. In addition, HCV infection is the most common etiology for cirrhosis and primary hepatocellular (liver cell) carcinoma (HCC) and the main indication for liver transplantation. The prevalence of HCV infection in African Americans is twice the prevalence in White Americans; African Americans comprise 12-13 percent of the general US population and ~23% of HCV cases. In addition, the outcomes of HCV infection are worse in African Americans, with both a higher HCC incidence and mortality from and higher overall HCV-related mortality rates. A Markov model of the natural course of HCV and epidemiological data from 1950-2030 projects the incidence of hepatitis C-related cirrhosis will continue to increase through the next decade affecting 45% of infected persons, mostly baby boomers older than 60 year of age. The model predicts a near doubling in the number of cases of decompensated cirrhosis or end stage liver disease from 80,000 to 140,000 cases per year and primary HCC from 13,000 to 20,000 cases per year due to HCV and a tripling in the number of deaths from 2010 through 2030 (assuming no changes in the efficacy and accessibility of antiviral treatments). Several longitudinal studies have found that long-term eradication of HCV with therapy decreases all-cause and liver-related mortality, end stage liver disease, HCC and need for liver transplantation. Since 1991 when interferon alfa-2 injection became the first medication to receive FDA approval for treatment of HCV, development of new therapies has led to a increases in the cure (long term eradication) rates ~10% (1991) to 50% in 2001-2011 (pegylated interferon injection plus oral ribavirin). However, the cure rate in African Americans was half that in Whites; this racial difference in efficacy was partly explained by host genetics and ribavirin pharmacokinetics. Driven by an increasing understanding of the HCV lifecycle within cells and molecular virology, oral inhibitors of several HCV target (NS34a protease, NS5A replication complex, and NS5B polymerase) have been developed; clinical trials of several all oral (interferon-free) combination regimens for 12-24 weeks have achieved cure rates in > 90% of HCV patients, with much improved safety profiles compared to interferon-containing treatments. African Americans have been under-represented in many clinical trials; however, several trials have found statistically similar cure rates in African Americans and White Americans. Unfortunately, between 50 and 75% of infected persons are not aware they are infected. Seventy five % of HCV-infected persons were born from 1945-1965. Since 1998, the CDC has recommended HCV antibody screening for persons based on established risk factors (current of previous injecting drug use, blood transfusion or solid organ transplantation prior to 1992, HIV positive, etc.) In 2012, the CDC recommended that every persons in this birth cohort have one-time screening for HCV antibody and evaluation for treatment if positive.