

# Medical Writers' Circle

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a series of articles  
written by medical  
professionals about  
the management  
and treatment of  
hepatitis C

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## Chronic Hepatitis C in the Hispanic Population

According to the U.S. Census Bureau, Hispanics are the fastest growing and the largest minority group in the U.S. In 2003, it was estimated that 40 million Hispanics lived in the continental US and another 3.9 million in Puerto Rico. The Hispanic population is a diverse population. From the most recent census of the US population in 2000, Hispanics consisted of 58.5% Mexicans, 9.6% Puerto Ricans, 3.5% Cubans and 28.4% of various other Hispanic origins (e.g. Central or South America, Dominicans)<sup>1</sup>. In the third National Health and Nutrition Examination Survey (NHANES III), Mexican-Americans had a higher anti-HCV positivity rate than Caucasians (2.1%, 95% CI: 1.7-2.6) and were more likely to be viremic (73.6%, 95% CI: 66.8-81.2%). For example, 6% of Mexican-Americans between age 50 and 59 years were anti-HCV positive. However, after adjusting for

other risk factors, race and ethnicity were found not to be independently associated with HCV infection<sup>2</sup>.

The major mode of HCV transmission is via injection drug use (IDU). Hispanic injection drug users are more likely than Caucasians to acquire bloodborne pathogens including HIV, HBV and HCV. Hispanics with HIV-infection were more likely to be co-infected with HCV (19.3% in Hispanics vs. 10.9% in Caucasians)<sup>3</sup>. We found among our veterans with chronic hepatitis C that Hispanics, when compared to Caucasians, were more likely to be co-infected with HIV (20.4% vs. 3.9%) but not HBV (HBsAg positive in 4.5% vs. 5.5%)<sup>4</sup>. However, Hispanics with chronic hepatitis C have either a lower or similar prevalence of IDU compared to Caucasians, but Hispanic IDUs were found to inject more frequently, and to be more likely to share, but less likely to disinfect drug paraphernalia<sup>5</sup>. Among

Hispanic IDUs, Puerto Ricans tend to inject more frequently than Mexican-Americans. A recent study of hepatitis C patients on the Texas-Mexico border, with 84% being Hispanic, tattooing was found to be an independent risk factor for HCV infection<sup>6</sup>. Therefore, the higher prevalence of HCV infection in Hispanics might be due to unique risk factors such as tattooing and other high risk behavior among Hispanic IDUs.

There is very little data regarding the natural history and treatment outcomes of chronic hepatitis C in Hispanics. One study found that Hispanics had higher geometric mean alanine transaminase (ALT), aspartate transaminase (AST), and bilirubin levels and that they were less likely to have normal ALT levels compared with non-Hispanics<sup>7</sup>. Hispanics also had a more rapid estimated rate of fibrosis progression than Caucasians (0.215/yr vs. 0.084/yr), respectively,

largely a result of shorter estimated duration of infection<sup>8</sup>. Our study on veterans with chronic hepatitis C found no differences between Hispanics and Caucasians in the baseline liver tests, severity of disease assessed by liver histology and, hence, fibrosis

feron monotherapy<sup>10</sup>. In a recent study on a total of 45 Hispanic subjects in 2 treatment arms of consensus interferon monotherapy (9 ug or 15 ug TIW), the SVR in Hispanics (12%) to be intermediate between Caucasians (24%) and African Americans (4%).

we compared the findings from 421 Hispanics and 2,510 Caucasians, of whom 866 had liver biopsy and 569 underwent antiviral therapy<sup>4</sup>. In our study, Hispanics compared to Caucasians had a lower EOT (27.3% vs. 37%,  $p=0.08$ ) and SVR (14.8%

physician (43% vs. 37.8%,  $p=0.045$ ), a similar proportion of patients started on treatment (20.2% vs. 21.3%). We found racial differences in the behaviors and characteristics of those who initiated treatment compared to those who did not. Caucasians who initiate therapy compared to those not treated were statistically younger (age of HCV infection and age at time of treatment), had a higher level of education and household income, and were less likely to have a history of intravenous drug use or history of alcohol use. The same trend was found in Hispanics but was not statistically significant.

***We found racial differences in the behaviors and characteristics of those who initiated treatment compared to those who did not.***

progression rate. However, Hispanics were more likely to become infected at a slightly younger age<sup>4</sup>.

Reddy et al. first reported in 1999 on the effects of race on response rate to consensus interferon monotherapy but no difference was observed between Hispanics (N=40) and Caucasians (N=380) with respect to genotype distribution, disease activity, end-of-treatment (EOT) and sustained virological response (SVR) rates<sup>9</sup>. Analysis of the registration trials of interferon and ribavirin (Rebetron) found that the SVR was both higher and lower in Hispanic patients (N=32) according to the treatment regimen patients received and was 0% among Hispanics treated with either 24 or 48 weeks of inter-

However, in patients with genotype 1, the SVR was 15% in Caucasians and 13% in Hispanics ( $p=NS$ ). In genotype 2, the SVR was 41% in Caucasians but only 10% in Hispanics<sup>11</sup>. By pooling data from two different investigator-initiated trials using non-standard dosing of combination therapy (interferon and ribavirin), Hepburn et al.<sup>12</sup> also found the overall SVR in Hispanics was intermediate between Caucasians and African Americans. In the multiple logistic regression analysis, the only independent predictors of favorable response were sex (female), genotype (2 or 3), liver histology (mild) and no dose reduction during treatment.

In the largest study conducted on Hispanic hepatitis C patients in the U.S.,

vs. 22.5%,  $p=0.10$ ) rate to standard interferon and ribavirin therapy. Hispanic veterans were more likely to be genotype 1 (74.2% vs. 68.7%,  $p=0.36$ ), higher viral load and higher rate of early discontinuation of treatment (39.8% vs. 28.9%,  $p=0.043$ ). Multivariate analysis identified only genotype 1 and high viral load but not Hispanic race as associated with reduced SVR rate. Similar to the findings of consensus interferon monotherapy<sup>11</sup>, we found the SVR was similar in genotype 1 but lower in Hispanics compared to Caucasians in genotype non-1 ( $p=0.0553$ ).

In our study<sup>4</sup>, although Hispanics were more likely to be considered treatment candidates by standard criteria (49.8% vs. 39.6%,  $p=0.0001$ ), and by their



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Hepatitis C Support Project

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The Mission of the Hepatitis C Support Project is to offer support to those who are affected by the hepatitis C Virus (HCV), hepatitis B Virus (HBV) and HCV coinfections.

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