

SPONTANEOUS REMISSION IN HCV-EXPOSED AFRICAN-AMERICAN AND HISPANIC IV DRUG USERS TESTED IN 2018-2019

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Background

- Many factors affect the outcome of acute HCV infection, including gender, age, ethnicity, intravenous drug use, HIV-associated immune deficiency, and others
 - The strongest predictor of spontaneous remission or treatment response is genetic and related to a specific polymorphism (CC) in the IL28B gene (rs12979860), though others have been identified
 - The allelic frequency of this polymorphism varies widely with race being most prevalent in East Asians and least prevalent in Africans and African-Americans
 - There are few published data on Caribbean Hispanics, but they suggest a lower allelic frequency than in East Asians, similar to Caucasians, and higher than in Africans or African-Americans
 - Most epidemiologic studies were performed in the pre-DAA (direct acting agent) era
- Chronic HCV infection is associated with an increase in all-cause mortality
- Many inner city African-American and Hispanic HCV-infected people remain untreated
- The prevalence of people with spontaneous remission to HCV infection, has not been studied in the DAA era

Objectives

- To determine the prevalence of spontaneous remission in African-American and Hispanic people undergoing HCV serotesting in non-medical settings in the Bronx, NY

Methods

- Design: Prospective, cross-sectional, IRB-approved study
- Subjects: Inner city residents undergoing HCV serotesting in non-medical settings
- HCV serotesting was performed using Orasure technology on fingerstick blood
 - Data were collected on demographics and IV drug use.
 - Informed consent, HIPAA authorization, and IRB approval was obtained
- Serotesting was followed by confirmation of active infection (quantifiable HCV RNA) in a clinical laboratory

Results

- 930 subjects were tested
- 100 subjects were HCV seropositive (10.8%)
- 80 subjects had confirmation tests done
 - 78 subjects were African American or Hispanic
 - 55 men and 23 women
 - 49 Hispanic, 29 African American
 - All admitted to prior IV drug use
 - 8 subjects were HIV co-infected
 - 8 subjects admitted to prior anti-HCV treatment
- Undetectable HCV RNA was documented in 36 subjects while HCV RNA was detected in 42
 - 5 subjects with undetectable RNA, all Hispanic males, were treatment-experienced and were removed from further analysis yielding 31 subjects with spontaneous remissions
 - 3 subjects with detectable HCV RNA were treatment-experienced and were not removed from the analysis
 - Of the 31 subjects with undetectable HCV RNA in the absence of treatment there were 20 men and 11 women, 10 African-American and 21 Hispanic
 - Spontaneous remission was found in 21/49 (43%) Hispanic and 10/29 (34%) African-American subjects
 - Spontaneous remission was found in 48% of the women and in 36% of the men

Discussion

- The spontaneous remission rates reported here are much higher than in studies performed in inner city cohorts in the past
 - We hypothesize that it is associated with a higher allelic frequency of the CC genotype, though other aspects of innate immune function may be responsible
- Studies comparing IL28B gene polymorphisms in HCV seropositive and seronegative subjects will be needed to test this hypothesis
- The enrichment of people with spontaneous remission may reflect the influence active HCV infection on cumulative mortality
- There appears to be a sexual dimorphism in the incidence and prevalence of spontaneous remission
 - The higher prevalence of women with spontaneous remission has been reported previously
- Studies in a larger cohort of subjects with and without spontaneous remission are needed