

Does HIV Affect Hepatitis C-Associated Glomerulonephritis?

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A. Study Purpose

This project is designed to longitudinally study persons who are coinfecting with the human immunodeficiency virus (HIV) and the hepatitis C virus (HCV) with regard to the prevalence and clinical course of a renal manifestation of this coinfection, membranoproliferative glomerulonephritis (MPGN). Issues to be addressed are: does MPGN associated with HCV occur more often (or become more clinically manifest) in patients with HIV, and does it progress more rapidly and/or more frequently to end-stage renal disease (ESRD) in these patients?

Prior to the above, I must first do a smaller study to determine the prevalence of this disease at Columbia-Presbyterian Medical Center (CPMC) to see if it is plausible to do such a study at one institution. To do so I will look at indices of glomerulonephritis (hematuria, proteinuria, and renal insufficiency) in patients coinfecting with HIV and HCV at CPMC, to assess whether the prevalence of glomerulonephritis in such patients is at a high enough level to merit a large-scale prospective study of the natural history. Additionally, preliminary information regarding characteristics of these patients will be collected and analyzed for trends with which to guide the future study.

B. Study Design

This is a retrospective cohort study which will involve the review of medical records and Clinical Information System (CIS) computer data. Prevalence rates of the three markers of glomerular disease for patients with Hepatitis C with and without HIV will be compared. Markers of glomerular disease will be utilized to approximate prevalence of MPGN because actual biopsy data is very limited.

C. Study Subjects

Ideally the study subjects would initially include all patients found to have antibodies to HCV and to HIV by the CPMC serology laboratory. Since lists of such patients cannot be generated retrospectively, the study participants will be obtained in the following manner: 1. Hepatitis C Populations All patients referred to Liver Clinic known to be HCV+ (approximately 200 patients). 2. HIV+ Populations All patients seen in the Harkness 6 HIV Clinic known to be HCV+ (approximately 160 patients).

D. Recruitment Method

Dr. Howard Worman will provide access to the names and medical record numbers of the patients followed in the Liver Clinic. Dr. Karen Brudney will provide the names and medical record numbers of the patients seen in HIV Clinic who are HCV+, with the prior permission of the individual health care providers.

E. Study Procedures

Medical record numbers of patients with HIV or HCV will be obtained as above. Data will be collected via the CIS pertaining to three markers of glomerular disease: renal insufficiency (defined as creatinine > 1.4), hematuria (defined as > 5 red blood cells per high power field), and proteinuria (defined as > 150 mg per 24 hours). The HIV status of all patients with HCV will be recorded. Prevalence rates of

the three markers of glomerular disease for the two groups, HCV alone, or coinfection with HIV and HCV will be compared.

Of the patients with evidence of glomerular disease, a chart review will be performed, to look for factors which may relate to the clinical manifestations of glomerular disease, clinical evidence of liver disease, factors contributing to renal diseases other than MPGN, and actual renal pathologic diagnosis, if available. Clinical factors to document include: presence of hypertension (duration and severity), edema, ascites or hepatomegaly, other medical problems, creatinine clearance (weight), onset of dialysis, use of anti retroviral drugs, use of interferon, patient's race, and their risk factors for HIV/HCV. Laboratory data to be obtained include: the patient's age, gender, hepatitis B status, presence of cryoglobulins, rheumatoid factor, antinuclear antibodies, anti-DNA antibodies, complement, liver chemistries, CD4 cells/viral load.

Patients with renal disease known to be caused by processes other than MPGN will be excluded at this point. In the group of patients which remains, clinical characteristics will be compared with clinical outcomes (end stage renal disease, death) for planning of the future study.

F. Risks and Benefits

There are no potential risks to the subjects. The benefits are to society in general, as a pilot study which may lead to greater knowledge about the natural history of MPGN in patients coinfecting with HIV and HCV, and the role for intervention which may increase quality of life for affected patients, and decrease the number of patients ultimately on dialysis.

G. Issues

There will be no consent forms, as the research involves minimal risk to individual patients, and involves only the study of existing data, documents, and records.