Hepatitis C Virus And Membranoproliferative Glomerulonephritis In Patients With Human Immunodeficiency Virus

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A. Statement of Study Purpose, Rationale

To study patients with both Human Immunodeficiency Virus (HIV) and Hepatitis C Virus (HCV) to determine if they develop renal insufficiency (RD or renal failure (RF) more rapidly than patients with HIV who do not have HCV.

HIV positive patients are at risk for a specific type of RF, termed HIV Associated Nephropathy, in addition to other types of RF that may result from drug therapy, generalized illness, or infection. Immunocompetent individuals, as well as those with HIV, who have HCV are at risk for a specific type of RF termed MPGN, or Membranoproliferative Glomerulonephritis. No studies to date have examined a large population of HIV/HCV coinfected patients to determine prospectively the impact of HCV on overall development of RI/RF.

B. Description of Design

Subjects will be selected from the Infectious Disease Clinic as all are HIV positive outpatients. The investigators survey of clinic charts has revealed a -20% seropositivity for HCV among the current clinic population. These patients will be identified by surveying lab computer records of previously drawn HCV serology, and will be contacted by telephone and invited to participate in the study. All patients will be tested for HCV. The study group will be those that are coinfected, and the control group will be those that are HIV positive but HCV negative.

No crossover or randomization will be performed.

Initial measurements will be repeated at 3 month intervals, for 18 months, these include

- physical exam
- CD4 count
- HIV viral load
- serum BUN and creatinine

Statistical analyses will include Kaplan-Maier unadjusted survival curve examining effect over time of the ratio of urine protein to urine creatinine, and index of renal insufficiency. Cox adjusted survival curves will be used to adjust for age, viral load, and influence of antiretroviral (ARV) drug therapy. Relative Risk of developing RI/RF over time in coinfected patients Vs HCV negative patients will be examined, with confidence intervals for validity.

C. Description of Procedures

Measurements will include:

1 Urine protein/creatinine ratio and presence of red blood cells in urine. This is a simple analysis done in chemistry lab which requires pt to collect 23-30 ml of urine in one cup . Often obtained in routine clinical management, not as often as every 3 months.

2 BUN/creatinine: blood test, inexpensive chemical analysis, requires venipuncture (needle stick). Part of routine clinical care, usually about every 6 months in this population.

3 Viral loading count: expensive but routine lab test requiring venipuncture of pt, can be done in same procedure as #2.

4 Physical exam: Involves time(15 min) but no discomfort to pt, is part of routine clinical care every 1-6 months in this population.

Duration of study is 18 months, above procedures will be repeated at each visit, every 3 months, for total of 6 visits, approximately 1 hour each, incorporated into study. This is less frequent than many patients routinely see their HIV primary care practitioner, and the visit would be incorporated with routine visits to see the patients individual primary care provider so as not to duplicate visits and cause inconvenience for the patient.

D. Study Drugs

None

E. Medical devices

None

F. Questionnaire

None

G. Subjects

Those excluded for the study would be patients who had evidence of existing RI/RF at the start of study, specifically a protein to creatinine ratio >0.5, and/or a serum creatinine of >1.0 mg/dl. Pregnant women would also be excluded from the study.

There are no vulnerable subjects to be included in the study. Minorities and women are an inherent part of the HIV population and should, therefore, be represented in appropriate numbers by simply following the above selection criteria. The number of clinic patients who have acquired HIV through homosexual contact is unknown, but may be underrepresented compared with the number of homosexually acquired HIV in the US as a whole. A large percentage of clinic patients, also presently unquantified, have acquired HIV through IV Drug Abuse (IVDA), which accounts for our large percentage of HCV positive patients.

H. Confidentiality

Coded study participants and date will be stored in a secure location accessible only by investigators. Patients will be coded by consecutive numbers, starting with #100.

I. Location of Study

Patients will be seen, and all procedures performed, in the Harkness 6 Infectious Diseases clinic, at CPMC, which is within the Principal Investigators department. This is the location where patients see their existing primary care provider, and is therefore convenient and well known to patients.

J. Risks

Risks of venipuncture, which include hematoma, pain at site. Potential benefit would be to HIV/HCV coinfected patients, of it was known how quickly RI/RF progresses, they may be identified early and offered treatment for HCV, which is known to improve renal disease.

K. Alternate therapies

NA

L. Compensation and Cost to Patient

No compensation will be provided, cost is simply transportation, which will be reimbursed by subway/bus token.

M. Minors

NA

N. Radiation

None