NYU School of Medicine
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A SINGLE-CENTER PILOT STUDY OF THE USE OF HEPATITIS C POSITIVE DONORS FOR HEPATITIS C NEGATIVE HEART TRANSPLANT RECIPIENTS WITH POST-TRANSPLANT TREATMENT OF HEPATITIS C VIREMIA WITH MAVYRET

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1 Statistical Considerations

1.1 Statistical and Analytical Plans (SAP)

As this is a single-arm observational study, no SAP will apply.

1.2 Statistical Hypotheses

We hypothesize that 100% of patients who develop HCV viremia will achieve SVR after completing an 8-week course of Mavyret treatment.

1.3 Analysis Datasets

Subjects will be entered into a study subject dataset which includes de-identified information. This will include: donor and recipient demographic data, donor HCV NAT, serology, and genotyping information, and results of all recipient HCV NAT, serologic, and genotyping data obtained throughout the course of the study.

1.4 Description of Statistical Methods

Since the anticipated study population will be a small size, statistical analyses will be limited to descriptive statistics. For patients who develop post-transplant viremia we will be able to compare our HCV cure rates to those that are expected for patients who receive treatment with these agents for chronic HCV.

1.4.1 General Approach

The study design will be single arm, open label. Descriptive statistics will include:
Incidence HCV viremia post-transplant (percentage)
Time course of exposure to development of clinically detectable viremia in those who develop viremia (median time to viremia with standard deviations)
Incidence of sustained clearance of HCV (cure) after treatment of viremia (percentage)
Time course of clearance of viremia after treatment initiation (median time to clearance with standard deviations)
Incidence of treatment failure/treatment resistant strains of HCV (percentage)
Characterization of distribution of HCV genotypes in patients who develop viremia (percentages)
Comparison of treatment failure rates to expected treatment failure rates for the treatments used (p value for significance will be set at $p<0.05$ and two-tailed t-test will be used)

1.4.2 Analysis of the Primary Efficacy Endpoint(s)

The primary endpoint will be percentage of patients with sustained virologic response after treatment for HCV after heart transplant.

We expect that 100% of patients who are treated will achieve SVR. SVR will be defined as the absence of detectable HCV by NAT testing 3 months after the completion of the treatment course.

1.4.3 Analysis of the Secondary Endpoint(s)

Secondary endpoint #1: 1-year patient survival rates in HCV negative heart recipients who receive a heart transplant from a HCV positive donor.

Patients will have regular follow-up as standard of care for all heart transplant recipients. Patients survival will be readily apparent. Furthermore, all deaths of transplant recipients are required to be reported to UNOS.

Secondary endpoint #2: Incidence of HCV viremia among HCV negative recipients who receive a heart transplant from a HCV positive donor.
We will be measuring serial HCV NAT and serologic testing for a minimum of 6-months post-transplant. A patient will be considered to be viremic when a post-transplant HCV NAT test is positive. The incidence of viremia will be calculated as a percentage of the patients transplanted with a HCV-positive donor who develop HCV viremia by NAT testing.