

## SRTP - Project Description Form #209

### PART I:

**Name of Schulich faculty member who will supervise the project** Lillian Barra

**Supervisor's Schulich, Western, Hospital or Lawson Email** lillian.barra@sjhc.london.on.ca

**Schulich Department** Medicine

### PART II - Project Description

**Title of Project** Outcomes of Canadian Patients with Antineutrophilic Cytoplasmic Antibody Vasculitis with Renal Disease

#### Background

Anti-neutrophilic cytoplasmic antibody (ANCA)-associated vasculitis (AAV) is a rare autoimmune disease characterized by inflammation of small and medium blood vessel. Glomerulonephritis is a common manifestation of AAV and can be rapidly progressive, leading to end-stage renal disease (ESRD) requiring dialysis in about 20-25% of patients with AAV. Furthermore, renal involvement is an important predictor of mortality, as patients with AAV presenting with significant renal impairment have a 50% risk of ESRD or death at 5 years. Early treatment with immunosuppressive agents is required to prevent complications of AAV. Treatment of severe AAV involves high dose corticosteroids and a chemotherapeutic agent (cyclophosphamide or rituximab) (3). Although most patients respond well to induction therapy, relapses are common. Maintenance immunosuppressive agents such as low-dose rituximab, methotrexate, and azathioprine are standard of care to reduce the risk of relapse.

The use of immunosuppressive agents in AAV are associated with a high risk of infection, particularly in patients with renal diseases. These patients may also be at increased risk of cardiovascular events, which is a major driver of mortality in AAV patients with chronic disease. Additionally, AAV patients with severe renal disease may be less likely to relapse. Outcomes in patients with different stages of renal disease remains incompletely understood.

#### Hypothesis

We hypothesize that worsening renal stage is associated with higher infection risk and mortality, more co-morbidities and increased medication adverse events, but lower relapses

#### Proposed Methodology

Multi-center retrospective cohort (the Canadian Vasculitis Network Registry). The research project will involve chart review, data extraction, data entry, analysis, interpretation of results and knowledge translation. Outcomes (infection rate, frequency of co-morbidities, mortality, medication adverse events and relapse rate) will be assessed at 1, 3 and 5 years follow-up. The outcomes will be compared for 4 stages of renal disease (mild, moderate, severe and end-stage).

#### Expected Outcomes

We expect that patients with severe and end-stage renal disease will have worse outcomes than those with mild to moderate disease.

#### Research Environment - Description of the number of research personnel, primary location of research, size of lab, etc

Research will take place at St. Joseph's Health Care and remotely. The student will have close supervision by PI, Dr. Barra. They will have access and training to statistical software.

#### Names and titles of other individuals who will be involved with the research project?

Felix Roa - research assistant (will recruit patients)

**Can this project be done remotely?** Yes

**Duration of Project** Two Summers

**Expected Objectives/Accomplishments for Student for Year 1?**

Complete chart review and data extraction

**Expected Objectives/Accomplishments for Student for Year 2?**

Data analysis and preparation of manuscript

**PART III - Certifications**

**Note: certification approval should be obtained prior to the start of the summer. Projects without this approval will not be a priority for funding.**