

SJÖGREN'S SOCIETY OF CANADA 2013 GRANTS AWARDED

The Sjogren's Society awarded two Summership Grants for research in Sjögren's Syndrome to the following successful candidates.

Title of Project

The effect of BLyS on B cell Tolerance in Patients with Primary Sjogren's Syndrome

Student: SAGHAR SADEGHI

Mentor: Dr. Joan Wither, University of Toronto

Purpose of Project:

To examine the proportion of self-reactive and anergic B cells in Sjogren's Syndrome patients and determine the correlation between BAFF and auto-antibody levels.

Explanation:

In mice, high levels of BAFF have been shown to overcome the tolerance process leading to increased proportions of nuclear antigen-reactive cells in the naïve B cell repertoire and production of anti-nuclear antibodies. In Systemic Lupus Erythematosus (SLE), a condition that overlaps with and shares a similar genetic susceptibility to Sjogren's Syndrome, there is evidence that there is defective purging of self-reactive and anergic B cells. Although previous experiments suggest that Sjogren's Syndrome patients have similar B cell abnormalities to SLE patients, the proportions of anergic and self-reactive B cells have not been examined, nor have they been correlated with the BAFF levels in these individuals. We hypothesize that there will be a marked increase in these populations in Sjogren's Syndrome patients as a result of the marked elevations in BAFF, and that this plays a critical role in the breach of tolerance leading to autoantibody production in these individuals.

Title of Project:

Lid Wiper Epitheliopathy and Marx's Line Placement in Sjögren's Syndrome.

Student: DR. WILLIAM NGO

Mentor: Dr. Sruthi Srinivasan, University of Waterloo

Purpose of Project:

Evaluate LWE and the placement of Marx's line in subjects with and without Sjogren's Syndrome (SS), and find the strength of correlation of those tests to tearfilm breakup time, meibography, meibomian gland assessment, meibum quality, Schirmer's I, corneal staining, and subjective questionnaire scores.

Explanation:

There are two ocular signs that have recently been considered in the assessment of dry eye and meibomian gland dysfunction. The first is lid wiper epitheliopathy (LWE), which was hypothesized to be caused by mechanical friction between the superior palpebral marginal conjunctiva (wiper region) and the cornea. As the mechanical friction increases due to lack of tears, trauma to the wiper region can be observed with Lissamine green. The second sign is the placement of Marx's line relative to the meibomian gland orifices, of which the position was hypothesized to be dependent on changes in the osmotic gradient along the tear meniscus.

There is currently a lack of clinical studies that explore these signs in subjects with SS, therefore the purpose of this project will be to determine, in subjects with SS, whether any correlation exists between LWE and Marx's line placement, and between any of the traditional dry eye testing methods. The results of this study will allow dry eye researchers to understand the role of LWE and Marx's line in the context of severe, aqueous deficient dry eye, and more importantly, the results may provide clinicians with more diagnostic tools to manage Sjögren's Syndrome-associated dry eye.