



High Impact Research Grant:

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Project Title: Investigating oral and conjunctival gene transcriptome signature in Sjögren's at the single cell level

Abstract

Sjögren's is an autoimmune disease that causes dry eye and dry mouth. Decreased saliva causes difficulty chewing and swallowing, dental caries, and oral infections. Dry eye causes ocular symptoms, including irritation, blurred vision, and eye perforation in severe cases. Sjögren's patients typically see multiple doctors searching for a diagnosis, with a significant burden to the individual and society. Some Sjögren's patients with dry eye have minimal or no dry mouth symptoms. We believe that cells from the eye surface and mouth taken from patients with dry eye and dry mouth carry a distinct gene signature from patients with dry eye only and control subjects. We propose to use a novel technique that can identify the genes from the eye and the mouth at a single-cell level. Identification of a Sjögren's gene expression signature would provide relevant diagnostic markers that could be used in the future.