



High Impact Research Grant:

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Project Title: Integrated Transcriptomic Profiling of Recurrent Parotitis in Pediatric Sjögren's Syndrome for Assessment of Mitochondrial RNA Regulators

Abstract

Our interdisciplinary assessments of recurrent salivary gland swelling in children have discovered a rare cohort of pediatric Sjögren's (Juvenile SS/JSS) at our institute. The prevalence and the natural history of JSS is completely unknown. JSS is commonly misdiagnosed as infection of the salivary glands, as recurrent glandular swelling frequently occurs in JSS without the hallmarks of SS. This application will uncover the gene signatures of JSS immune cells with high-throughput sequencing. Our preliminary data suggest that mitochondrial RNA may elicit the inflammatory signature in monocyte. We will determine how such altered gene signature of JSS monocyte in the blood affects immune cell phenotype in the target tissue. We hypothesize that robust inflammation in recurrent parotitis of JSS presents more distinct mitochondrial RNA dysregulation compared to JSS without recurrent parotitis or adult Sjögren's. Our ultimate goal is to establish the scientific foundation for JSS diagnostic criteria and targeted therapeutic interventions.