Using Biomarkers to Predict Response to Abatacept in Oligo JIA

Lauren Henderson, Boston Children’s Hospital; Peter Nigrovic, Brigham and Women's Hospital; Sarah Ringold, Seattle Children's Hospital

Project Summary/Abstract

Patients with oligoarticular juvenile idiopathic arthritis (oligo JIA) can follow one of two diseases courses. Children with persistent oligo JIA continue to have less than 5 arthritic joints and generally have an excellent prognosis. In others, the disease extends after 6 months and patients develop polyarthritis and/or uveitis. It remains to be determined if patients at risk for disease progression can be identified and treated up front to prevent extension. In order to address these questions, we will collect biosamples in conjunction with the PCORI-funded LIMIT-JIA study, which seeks to determine whether a 6-month course of abatacept given to children with less than 5 active joints prevents disease extension. We predict that T follicular helper (Tfh) cell markers and genetic polymorphisms related to the CTLA4 pathway can be measured at diagnosis and identify oligo JIA patients most likely to benefit from up-front abatacept treatment. Funding from this grant will also permit collection of well phenotyped biosamples that will be stored in the CARRA Biobank for other investigators to conduct studies in oligo JIA.

Lay Summary

Children with oligoarticular juvenile idiopathic arthritis initially present with only a few arthritic joints (less than 5). Some children with oligo JIA will continue to have mild disease (oligoarticular course) and others will go onto develop more severe disease with more arthritic joints (polyarticular course) and eye inflammation (uveitis). As pediatric rheumatologists, we would like to use biomarkers from the peripheral blood to identify which patients are at greatest risk for severe disease. If we can identify at risk patients, we can try to prevent disease extension with medications. This study will allow us to collect and analyze blood samples from oligo JIA patients in an effort to answer these questions.