

A Prospective Observational Study Comparing the Non-inferiority of Mycophenolate Mofetil to Methotrexate for the Treatment of Juvenile Localized Scleroderma

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Project Summary/Abstract

Juvenile Localized Scleroderma (jLS) is an autoimmune and fibrosing disorder associated with high morbidity. A recent pilot study conducted by members of the Children's Arthritis and Rheumatology Research Alliance (CARRA) LS group demonstrated the feasibility of conducting comparative effectiveness treatment studies in jLS, with this study evaluating 50 active jLS subjects beginning treatment with one of three previously developed methotrexate (MTX)-based consensus treatment plans (CTPs). Twenty five percent of patients had inadequate response, while another 10% had intolerance to MTX requiring dose reduction or discontinuation of this medication. Limited data exists about management of MTX treatment failures. Mycophenolate mofetil (MMF) is commonly used as a second line treatment for jLS, although there have only been two small retrospective case series reporting on its effectiveness for LS. The main objective of this study is to understand the treatment response to MMF in a small cohort of patients with moderate to severe jLS that will be treated based on one of three MMF CTPs, and followed prospectively for one year. Our primary aim is to evaluate the non-inferiority of MMF to MTX in patients with active disease (new diagnosis or flare) by comparing the proportion of patients having clinical improvement as defined by the previously established treatment response criteria, including physician global assessments (PGA) of activity status compared to pre-treatment, change in PGA of disease activity scores, and change in Clinical Skin Activity Scores. Subjects being treated with an MMF CTP will be compared to subjects treated with a MTX CTP from 2 existing cohorts: 1) the jLS CTP pilot study, and 2) the Scleroderma Collaborative Research (SCORE) study.

Lay Summary

Juvenile Localized Scleroderma (jLS) is an inflammatory disease affecting the skin and other organs of children, caused by an impaired function of their immune system. It can be associated with body disfigurement and disability due to growth disturbance. Standard treatment for jLS includes the use of medications that control the excessive inflammation to prevent irreversible damage. The most widely used treatment regimens include methotrexate (MTX), either alone or in combination with corticosteroids. While many respond to this regimen, at least 25% of patients do not tolerate or fail to respond to MTX. A few studies have showed improvement of disease in patients with severe LS that were treated with mycophenolate mofetil (MMF). However, the evidence for its use is limited. In this study, we intend to investigate how effective MMF is in treating jLS as compared to MTX, with the goal to improve the outcome of these patients.