Diallyl injections of the interleukin-1β antagonist anakinra significantly improved the peripheral and central nervous system manifestations of neontal onset multisystem inflammatory disease in patients with and without the genetic mutation that is associated with the rare systemic disease, a study found.

Neonatal-onset multisystem inflammatory disease (NOMID) often develops in patients who have mutations in the cold-induced autoinflammatory syndrome 1 (CIAS1) gene that is associated with regulating inflammation.

Previous studies have linked interleukin-1β pathways to NOMID, and isolated case reports have suggested that inhibiting interleukin-1β, anakinra (Kineret), may be effective in treatment of rash and the constitutional symptoms of disease.

To assess anakinra efficacy on these manifestations, as well as those that affect the central nervous system, Dr. Raphaella Goldbach-Mansky of the National Institute of Arthritis and Musculoskeletal and Skin Diseases in Bethesda, Md., and colleagues enrolled 18 patients with active disease, including 12 with identifiable CIAS1 mutations, into an open-label investigation (N. Engl. J. Med. 2006;355:581-92).

All of the patients were between the ages of 4 and 32 years (mean age 11 years) and presented with at least two of the following clinical manifestations of NOMID: urticarial rash, central nervous system involvement, or pyeophylly or patchy overgrowth on radiography. Additionally, all of the patients had undergone pre-treatment with nonsteroidal anti-inflammatory drugs, disease-modifying antirheumatic drugs, and/or corticosteroids.

Each patient received daily subcutaneous anakinra injections of 1-2 mg/kg of body weight and underwent efficacy assessments at 1, 3, and 6 months.

The primary end points of the study were changes in the Systemic Lupus Erythematosus Disease Activity Index, patient withdrawal period for up to 7 days, 10 experienced a flare that met prespecified criteria at a median of 5 days. All of the patients responded to anakinra therapy promptly, and the improvements were sustained at the 6-month follow-up.

Additional findings included improved hearing in six patients and stable hearing in patients relative to baseline, stable vision in all patients, and significant improvements in pain, parent, and physician global assessment, and Childhood Health Assessment Questionnaire scores.

With respect to central nervous system manifestations, median daily headache scores decreased significantly in all patients with complete resolution of headaches in eight patients at 3 months. Intracranial pressures, protein levels, and white cell counts decreased significantly in the 12 patients for whom cerebrospinal fluid was evaluated. Additionally, MRI showed significant improvement from baseline in cochlear and leptomeningeal lesions, the authors wrote.

Overall, anakinra was well tolerated in the patients. Eight experienced a localized, erythematicus, sometimes painful injection-site reaction that disappeared by 6 months, 11 had no significant decreases in C-reactive protein, serum amyloid A, and erythrocyte sedimentation rates. Of the 11 patients who underwent patient withdrawal period for up to 7 days, 10 experienced a flare that met prespecified criteria at a median of 5 days. All of the patients responded to anakinra treatment promptly, and the improvements were sustained at the 6-month follow-up.

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Connective Tissue Disease May Induce Skin Eruption

Manchester, England — Reactive perforating collageno- sis has been reported in a patient with severe connective tissue disease for the first time, adding to the list of underlying disorders associated with this skin eruption.

A 17-year-old female was referred with a 9-month history of a rash on the arms, shoulders, and legs. It had appeared post partum, coinciding with the onset of painful symptoms of Raynaud’s phenomenon, fatigue, anergy, and pauciarticular arthritis. Dr. Anne-Marie Tobin said at the annual meeting of the British Association of Dermatologists.

The patient also had recently had a tonsillectomy for recurrent sore throat and was being tested for microcytic anemia. The rash consisted of keratotic papules and plaques, typical of a perforating dermatosis. An initial skin biopsy suggested a reactive folliculitis, but a repeat biopsy revealed acanthosis and an underlying perivascular infiltrate said Dr. Tobin of the department of dermatology, Waterford (Ire- land) Regional Hospital.

It also showed collagen entrapment in the epidermis and elimination through an epidermal depres-