Anakinra Promising in Pediatric Inflammation

B Y  K A T H  J O H N S O N

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Response to anakinra treatment was rapid and sustained in most patients with systemic-onset juvenile idiopathic arthritis (SoJIA) and in a "significant proportion" of patients with systemic-onset juvenile idiopathic arthritis, according to a study.

The results suggest the treatment has the potential not only to alleviate symptoms of these diseases, but also to reduce steroid dosage, reported Dr. Thierry Lequerré of the department of rheumatology at the Centre Hôpitalier Universitaire Rouen (France) and colleagues.

The study assessed the efficacy and tolerability of anakinra in 20 systemic-onset juvenile idiopathic arthritis (SoJIA) patients (mean age, 11.2 years) and 15 adult-onset Still’s disease (AoSdD) patients (mean age, 38 years), all of whom had been treated previously with corticosteroids. All 20 of the SoJa patients and 12 patients in the AoSdD group were on steroids at the start of anakintra treatment. Disease-modifying antirheumatic drugs had also been used by all patients except the youngest child, and had been deemed ineffective or not very effective (Ann. Rheum. Dis. 2008;67:302-B).

Response rates started at a dosage of 100 mg/day in AsoJD patients, and at dosages of 1-2 mg/kg per day (maximum, 100 mg/day) in SoJa patients, with an increase after 2 months if there was no significant improvement. Data were collected at baseline, at 3 and 6 months after treatment initiation, and at the latest follow-up, with the mean follow-up time being approximately 14 months in all patients.

Response in patients with AsoJD was defined as a resolution of systemic symptoms and improvement of the Giannini's ACR pediatric criteria by at least 30% for polyarticular JIA activity assessment. If either the ACR or ACR pediatric scores showed less than 50% improvement, response was classified as "partial" whereas "complete" response was defined as improvement of more than 50%.

Among the 20 SoJa patients, 15 showed at least some improvement, noted the authors. "Clinical systemic features, including fever and rash, were resolved in 14 cases within the first 3 months of treatment," the authors noted. However, the percentage of patients who achieved 30%, 50% and 70% improvement, according to ACR pediatric criteria, were 55%, 30% and 0% at 3 months respectively; 50%, 25% and 10% at 6 months respectively; and 45%, 20% and 10% at the latest follow-up, respectively, they reported.

By 6 months post treatment initiation, 11 of the 12 patients in the AoSdD group were in remission in nine patients were reduced by 15%-78%.

Among the 15 AoSdD patients, 11 (73%) "had a prompt and dramatic improvement in all disease markers," they noted. A total of 9 of the 11 patients "achieved a complete response at 3 months; [and] 10 of the 11 patients at 6 months; and 9 of the 11 patients at the latest follow-up." In 2 of the 11 responders, corticosteroids could be stopped, and in 8 others, the dosage was reduced by 45%-95% from baseline.

Treatment withdrawal was reported for five Sja and four AoSdD patients because of intolerance, side effects, or lack of efficacy. There were several infections reported, including one case of visceral Leishmania and one case of varicella. Local pain or reactions were the most frequent adverse events.

"This is the largest such series and the first to analyze the effects of this treatment on SoJa and AoSdD patients, in parallel," noted the authors. In the two populations, they noted several differences that might account for the higher rate of infection in the adults, including the more common presence of fever and systemic symptoms in the adults, and the higher number of swollen, tender joints in the children. Another consideration is whether the dose or number of injections should have been increased in nonresponders, they added. "The lower response rate observed in SoJa patients indicates that prospective, randomized, and controlled trials are needed, assessing, in particular, the pharmacokinetics of anakinra in children."

The authors declared no competing interests in relation to the study.

The investigation "supports the anecdotal reports at scientific meetings of anakintra treatment failures [in SoJa], as well as the dramatic benefit anakinra produced in responders," noted Dr. Patricia Woon from University College London, in an editorial accompanying the article (Ann. Rheum. Dis. 2008;67:302-B).