PEDIATRIC RHEUMATOLOGY

ORAL PRESENTATION Open Access

Rilonacept (IL-1 TRAP) for treatment of colchicine resistant familial mediterranean fever (FMF): a randomized, multicenter double-blinded, alternating treatment trial

PJ Hashkes[1,8*], SJ Spalding[1], EH Giannini[2], B Huang[2], G Park[3], KS Barron[3], MH Weisman[4], N Pashinian[4], AO Reiff[5], J Samuels[6], D Wright[7], DL Kastner[3], DJ Lovell[2]

From 18th Pediatric Rheumatology European Society (PReS) Congress
Bruges, Belgium. 14-18 September 2011

Background

There is no current treatment alternative for patients with FMF whose disease is resistant to, or do not tolerate colchicine. Since pyrin has an important role in IL-1β regulation we hypothesize that IL-1 inhibition will decrease the number of FMF attacks in these patients.

Aim

To determine if rilonacept, a fusion protein that binds and neutralizes IL-1, decreases the number of FMF attacks compared to placebo.

Methods

Subjects were FMF patients ≥4 years of age recruited at 6 U.S. sites, who had at least 1 FMF attack per month despite receiving adequate doses of, or who were intolerant of colchicine. Subjects received two 3-month courses of rilonacept (Arm A) at 2.2 mg/kg (max 160 mg) by weekly SC injection and two 3-month courses of placebo (Arm B). Patients were randomized to 1 of 4 treatment sequences (ABAB, BABA, ABBA, BAAB). Escape visits were allowed to permit switching arms (blinding was maintained) for patients with at least 2 attacks within a course. The primary outcome was the difference of FMF attacks between rilonacept and placebo courses with responders defined as subjects with a >40% difference. Results were analyzed by paired t-and signed rank tests.

Results

Fourteen subjects were randomized, 8 males and 6 females, mean (±SD) age 24.4±11.8 years (range 4.5-47.3; 4 patients <18 years), disease duration 17.5±12.6 yrs, with a baseline of 3.1±2.0 attacks per month. Eleven completed the full study and 3 dropped out (1 due to lack of efficacy, 1 due to distance from study site and 1 lost to follow-up). Among 12 patients who completed at least 2 treatment courses the mean number of attacks per month on rilonacept was 1.0±1.2 vs. 1.8±0.9 on placebo (P=0.021 by paired t-test and 0.027 by signed rank test). There were 8 responders; all 4 non-responders were adults. There were 2 respiratory infection SAEs, 1 on rilonacept and 1 on placebo. Injections site reactions were significantly more frequent with rilonacept but no differences were seen in other adverse events, including infections.

Conclusions

Rilonacept significantly reduced the number of FMF attacks and had an acceptable safety profile. IL-1 inhibition is a treatment option for most (especially children) colchicine resistant FMF patients.

Author details
[1]Cleveland Clinic Foundation, OH, USA. [2]Cincinnati Children's Hospital Medical Center, OH, USA. [3]National Institutes of Health, MD, USA. [4]Cedar-Sinai Medical Center, CA, USA. [5]Children's Hospital of Los Angeles, CA, USA.

* Correspondence: hashkesp@szmc.org.il
[1]Cleveland Clinic Foundation, OH, USA
Full list of author information is available at the end of the article

[6]NYU Langone Hospital for Joint Diseases, NY, USA. [7]Children's Hospital Central California, CA, USA. [8]Shaare Zedek Medical Center, Jerusalem, Israel.

Published: 14 September 2011

doi:10.1186/1546-0096-9-S1-O38
Cite this article as: Hashkes *et al.*: Rilonacept (IL-1 TRAP) for treatment of colchicine resistant familial mediterranean fever (FMF): a randomized, multicenter double-blinded, alternating treatment trial. *Pediatric Rheumatology* 2011 **9**(Suppl 1):O38.