Rilonacept in Recurrent Pericarditis: First Efficacy and Safety Data from an Ongoing Phase 2 Pilot Clinical Trial

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BACKGROUND

Recurrence of pericarditis (RP) is characterized by the recurrence of pericarditis signs and symptoms after initial treatment. RP affects 20% to 30% of patients with acute pericarditis and can be debilitating owing to pain and discomfort. There are no approved therapies for RP; current treatment options include nonsteroidal anti-inflammatory drugs (NSAIDs), colchicine, and corticosteroids. Patients may relapse within 1 week to 3 months of initial therapy.

METHODS

Study Design

Open-label, single-arm, non-controlled, non-randomized, non-comparative, multi-center study. Patients were treated on an outpatient basis. Study duration: 18 months.

Patient Selection

Patients were included if they met the following criteria:

- Age ≥18 years
- Diagnosed with acute pericarditis according to the American Heart Association’s criteria
- Hospitalized for acute pericarditis
- Measles pericardial pain
- Active pericardial effusion
- Positive pericardial tissue biopsy

Exclusion Criteria

Patients were excluded if they met any of the following criteria:

- History of pericardial constriction
- Pericardial nodules suggestive of malignancy
- Pericardiectomy
- Pericardial tamponade
- Pericarditis secondary to collagen vascular disease
- History of malignancy
- History of infection

Study Procedures

Rilonacept (Arcalyst®; Regeneron, Tarrytown, NY) is approved in the US for the treatment of ankylosing spondylitis and psoriatic arthritis. It is a fully human recombinant fusion protein consisting of the extracellular domain of the extracellular protein of the human IL-1 receptor (IL-1Ra) and the Fc region of human IgG2a. It is administered via SC injection on day 0, then 2.2 mg/kg SC weekly for 5 additional doses.

RESULTS

Efficacy

- Mean patient-reported pericardial pain on the 1-to-10 pain NRS decreased from 4.6 at baseline to 2.0 at 6 weeks.
- Mean pericardial pain on the 0-to-100 CRP decreased from 39.6 at baseline to 22.2 at 6 weeks.
- Mean CRP decreased from 48.6 at baseline to 7 at 6 weeks.
- Mean Global Physical Health domain score improved from 45.1 at baseline to 48.6 at 6 weeks.
- Mean Global Mental Health domain score improved from 39.6 at baseline to 42.4 at 6 weeks.
- Mean CRP levels at baseline were ≤3 mg/dL, and were corrected at time of final data analysis.

Safety

- No serious adverse events were reported.
- No unexpected adverse events were reported.
- All adverse events were mild or moderate.
- No patient discontinued treatment due to adverse events.

DISCUSSION

The results of this study demonstrate the efficacy and safety of rilonacept in the treatment of RP. Rilonacept is a fully human recombinant fusion protein that blocks the activity of IL-1β. The results of this study support the use of rilonacept as a potential therapeutic option for patients with RP. Further studies are needed to evaluate the long-term efficacy and safety of rilonacept in patients with RP.

REFERENCES


Supplemental material available via JCR online.

CONCLUSIONS

- Rilonacept is an effective and safe treatment for RP. It is a fully human recombinant fusion protein that blocks the activity of IL-1β. The results of this study support the use of rilonacept as a potential therapeutic option for patients with RP. Further studies are needed to evaluate the long-term efficacy and safety of rilonacept in patients with RP.

DISCLOSURES

The study was sponsored by Kiniksa Pharmaceuticals, Inc.

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After Completing the EP:

- 265.5 patients (2 Part 1, 1 Part 2, and 1 Part 3) discontinued NSAIDs in the EP; 1 patient (Part 1) was prescribed an NSAID empirically after stopping CS.
- 206.9 patients (1 Part 2, 1 Part 3, and 1 Part 4) discontinued colchicine in the EP; 2 patients (1 Part 1 and 1 Part 2) were prescribed colchicine empirically after stopping CS.

Changes in Concomitant Medications for Pericarditis During the EP (in 11 Patients Who Completed the EP):

- 3/2 patients discontinued NSADS in the EP due to Part 1, 2, and 3.
- 1 patient (Part 1) in the EP was prescribed an NSAID empirically after stopping CS.
- 6/2 patients (1 Part 1, 1 Part 2, 1 Part 3, and 1 Part 4) discontinued colchicine in the EP.
- 1 patient in the EP (Part 1) was prescribed colchicine empirically after stopping CS.

Case Study: Treatment/Retreatment of RP with Rilonacept

- 50-year-old female with idiopathic pericarditis and 1 prior recurrence, enrolled in Part 1 during her third episode (pain NRS 6/10; CRP 8.85 mg/dL).

- Approximately 8 weeks after rilonacept discontinuation, while continuing on colchicine 0.6 mg bid, the patient presented with new onset of pericardial pain (2/10 on NRS), chest tightness, and dyspnea.

- Addition of rilonacept to colchicine background rapidly reduced pain (week 2 pain NRS 1/10; week 24 pain NRS 0/10).

- Systemic symptoms (fever, myalgia, and arthralgia) resolved on follow-up visits after discontinuation of rilonacept for adverse events (AEs) at week 30 (N=25) and week 46 (N=19).