Health-Related Quality Of Life In Patients With Recurrent Pericarditis: Results From A Phase 2 Study Of Rilonacept

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INTRODUCTION

- Pericarditis is characterized by debilitating chest pain and inflammation.
- Recurrent pericarditis (RP) is diagnosed if symptoms and inflammation re-occur 4-6 weeks after an acute episode resolves.
- RP and conventional treatments (including corticosteroids) have been shown to result in substantial morbidity, but the impact on patient health-related quality of life (HRQoL) has not been quantified.[1-3]

OBJECTIVES

- The Phase 2 trial NCT03980522 of rilonacept (IL-1α/IL-1β inhibitor) included evaluation of HRQoL as an exploratory endpoint to examine the impact of treatment on HRQoL and how these changes track with changes in patient-reported pain and indicators of inflammation.

METHODS

- Patients enrolled were categorized based on their symptomatology at Baseline:
  - Patients experiencing an active recurrence (with at least two additional prior recurrences; A-RP, n=16)
  - Patients dependent on corticosteroids but without an active recurrence (and had at least three prior recurrences; CSD-RP, n=9)
- All patients received rilonacept weekly for 6 weeks in the base treatment period (TP) and were invited to continue receiving weekly rilonacept during the optional 18-week extension period (EP). Optional tapering and discontinuation of concomitant standard of care medications, including corticosteroids, occurred in the EP for both groups of patients.
- The clinical and patient-reported assessments that are the focus of these analyses are described in Table 1. Results are presented descriptively.

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RESULTS

- Demographic and health characteristics of the 25 participants are presented in Table 2.
- Figure 1 presents the PROMIS® Global Physical Health (GPH)/Global Mental Health (GMH) and pain numeric rating scale (NRS) scores (both patient-reported), as well as CRP levels, over time. Table 3 shows the item-level scores over time for each patient group.
- Mean GPH/GMH HRQoL domain scores at Baseline were 39.9/44.5 and 43.3/46.5 for the A-RP and CSD-RP groups, respectively (Table 3, Figure 2) (versus generalized normative mean scores of 50; horizontal line in Figure 2).
- For the A-RP group, HRQoL scores increase for both the domains and items 1-9, while pain scores (Item 10 and pain NRS) and CRP levels decrease over the study period (Figure 1, Table 3).
- For the CSD-RP group, HRQoL domain scores increase over time while corticosteroids were tapered and/or discontinued (while pain and CRP remain low indicating no flare of RP) (Figure 1, Table 3).

Table 1. Description of assessments

Assessment	Description	Phase 2 trial administration schedule	Focus of present descriptive analysis
Patient-Reported Outcomes Measurement Information System (PROMIS®) Global Health v1.2[4]	10-item patient-reported outcome (PRO) questionnaire; two domain scores (physical [GPH] and mental GMH]) are created from the scale (higher scores indicate better QOL); general population norm GPH/GMH of 50. For Items 1-9, higher scores indicate improvement, and for Item 10, lower scores indicate improvement. Scoring for Item 10 is adjusted when calculating the GPH.	Completed at up to five timepoints during the trial	Data at Baseline (Day 0), end of TP (Week 6), and Final Visit (end of EP
C-reactive protein (CRP) levels	Clinical measurement of inflammation	Completed weekly from Baseline to the end of the EP	
Pain numeric rating scale (NRS)	Single-item PRO questionnaire assessing average pericarditis pain intensity over the past 24 hours on a 0 to 10 NRS	Completed weekly from Baseline to the end of the EP	

Table 2. Baseline demographics and health characteristics

Characteristics	Active recurrence (A-RP) N=16	Not symptomatic, corticosteroid-dependent (CSD-RP) N=9
Age (years) (Mean±standard deviation [SD] [range])	39.8±10.52 (26-58)	48.2±8.56 (36-62)
Gender (% female [n])	75.0% (n=12)	33.3% (n=3)
Race (% white [n])	81.3% (n=13)	100% (n=9)
BMI (kg/m²) (Mean±SD [range])	31.99±7.51 (23.4-52.7)	28.97±4.68 (22.5-34.3)
Duration of disease (years) (Mean±SD [range])	2.6±2.13 (0.2-7.9)	1.4±0.97 (0.6-3.4)
Number of prior recurrences (median, [range])	2 (1-8)	3 (2-5)
Baseline NRS (Pain Rating 0-10; Mean±SD [range])	4.6±1.82 (2-8)	1.4±1.51 (0-5)
Baseline CRP values (mg/dL) (Mean±SD [range])	3.8±5.30 (0.09-19.84)	0.19±0.11 (0.05-0.36)
Concomitant medications at Baseline		
Aspirin (n [%])	0 (0%)	2 (22.2%)
NSAID (n [%])	7 (43.8%)	5 (55.6%)
Colchicine (n [%])	12 (75.0%)	8 (88.9%)
Corticosteroids (CS) (n [%])	6 (37.5%)*	9 (100.0%)†

*4/6 (66.7%) discontinued CS and 1/6 (16.7%) tapered CS by end of EP; 1/6 (16.7%) did not enter EP.
† 7/9 (77.8%) discontinued CS and 1/9 (11.1%) tapered CS by end of EP; 1/9 (11.1%) did not enter EP.

Figure 1. Changes over the 6-month study period in patient-reported quality of life, average weekly pain scores, and blood level of CRP

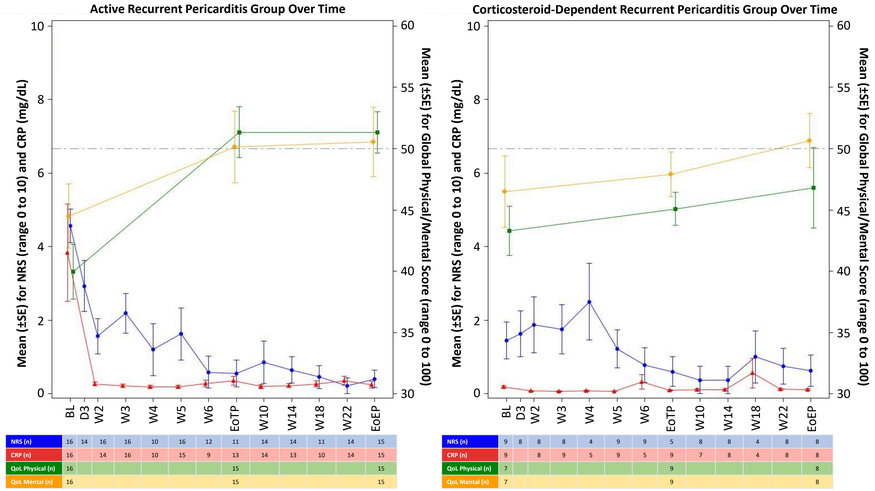

Figure 2. Mean GPH/GMH scores at Baseline for A-RP and CSD-RP

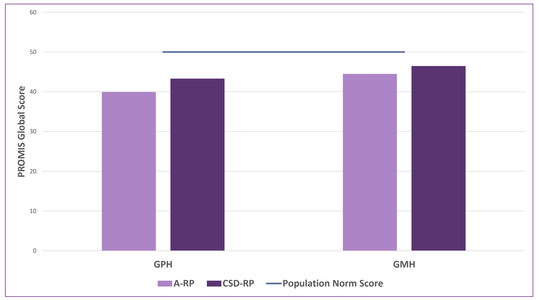

Table 3. PROMIS Global Health item and domain scores over time, by group

PROMIS Global domain/items	A-RP			CSD-RP		
	Baseline (n=16)	End of TP visit (n=15)	End of EP visit (n=15)	Baseline (n=7)	End of TP visit (n=9)	End of EP visit (n=8)
Global Physical Health (GPH)	39.94 ±8.94	51.35±7.96	51.32±6.56	43.30±5.31	45.09±4.06	46.81±9.27
Item 3 (physical health)	2.6±0.96	3.2±1.01	3.5±0.83	2.8±0.46	3.1±0.33	3.0±0.93
Item 7 (physical activities)	3.3 ±1.39	4.4±1.06	4.1±1.03	3.4±0.74	3.3±0.87	3.8±1.04
Item 9 (fatigue)	3.1±0.96	3.7±0.49	3.7±0.82	3.1±0.69	3.2±0.44	3.4±1.06
Item 10 (pain)	4.8±1.88	0.6±1.18	0.5±1.13	1.7±1.60	1.0±1.32	1.4±2.50
Global Mental Health (GMH)	44.50 ±10.48	50.13±11.33	50.54±11.00	46.49±7.77	47.91±5.51	50.66±6.30
Item 2 (quality of life)	3.0 ±1.03	3.6±1.06	4.0±1.00	3.3±1.04	3.6±0.73	3.4±0.74
Item 4 (mental health)	3.3 ±1.13	3.7±1.23	3.6±1.12	3.4±0.74	3.6±0.73	3.9±0.83
Item 5 (social activities and relationships)	3.1±1.34	3.7±1.18	3.6±1.12	3.1±0.83	3.3±0.50	3.6±0.92
Item 8 (emotional problems)	3.1±1.41	3.5±1.36	3.4±1.12	3.4±0.98	3.3±0.71	4.0±0.53
Items that are not included in above domains						
Item 1 (general health)	2.9±0.72	3.5±0.83	3.6±0.91	2.9±0.64	3.1±0.33	3.1±0.64
Item 6 (social activities and roles)	3.1±1.09	3.5±1.25	3.5±1.13	2.9±0.99	3.1±0.93	3.5±0.93

CONCLUSION

- Impaired Baseline HRQoL suggests negative impact of RP in both populations.
- For A-RP, HRQoL improvements paralleled the rapid improvements in pericarditis signs and symptoms (as measured by patient reported pain and CRP levels) during rilonacept treatment.
- For CSD-RP, HRQoL improved during tapering/withdrawal of corticosteroids while on rilonacept treatment, without recurrence of RP.
- These results warrant further investigation of rilonacept in well-controlled clinical trials to clarify its potential to improve RP patient HRQoL while providing corticosteroid-sparing disease control.

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