**Supplemental Table 1.** Adverse events (AEs)a for each period

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Total****(N = 42)** | **Week 0-12** **(n = 42)** | **Week 12-24** **(n = 36)** | **Week 24-36** **(n = 34)** | **Week 36-48** **(n = 30)** | **Week 48-52** **(n = 29)** |
| **All body systems** |
| **Patients with ≥ 1 AE, n (%)** | 38 (90.5) | 29 (69.0) | 20 (55.6) | 14 (41.2) | 13 (43.3) | 4 (13.8) |
| **Total no. AEs** | 143 | 50 | 30 | 35 | 24 | 4 |
| **Infections and infestations** |
| **Patients with ≥ 1 AE, n (%)** | 23 (54.8) | 13 (31.0) | 6 (16.7) | 6 (17.6) | 7 (23.3) | 1 (3.4) |
| **Total no. AE** | 36 | 14 | 6 | 8 | 7 | 1 |
| **Investigationsb** |
| **Patients with ≥ 1 AE, n (%)** | 9 (21.4) | 5 (11.9) | 1 (2.8)  | 5 (14.7) | 2 (6.7) | 0 |
| **Total no. AEs** | 20 | 10 | 1 | 7 | 2 | 0 |
| **Skin and subcutaneous tissue disorders** |
| **Patients with ≥ 1 AE, n (%)** | 14 (33.3) | 6 (14.3) | 4 (11.1) | 5 (14.7) | 0 | 0 |
| **Total no. AEs** | 15 | 6 | 4 | 5 | 0 | 0 |
| **Gastrointestinal disorders** |  |  |  |  |  |  |
| **Patients with ≥ 1 AE, n (%)** | 10 (23.8) | 2 (4.8) | 3 (8.3) | 2 (5.9) | 3 (10.0) | 0 |
| **Total no. AEs** | 14 | 2 | 3 | 4 | 5 | 0 |

AE, adverse event; TCZ-SC, subcutaneous tocilizumab.

a System organ class was used to categorize AEs.

b Most common investigations were increases in blood cholesterol, triglycerides and eosinophil count and decreases in white blood cell count.

**Supplemental Table 2.** Clinicaloutcomes in patients

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Week 12, LOCF** | **Week 12** | **Week 24** | **Week 52** |
|  | **TCZ-SC** **qw****(n = 21)** | **TCZ-SC** **q2w****(n = 20)** | **TCZ-SC** **qw****(n = 19)** | **TCZ-SC** **q2w****(n = 17)** | **TCZ-SC** **qw/qw****(n = 18)** | **TCZ-SC** **q2w/qw****(n = 15)** | **TCZ-SC** **qw/qw****(n = 14)** | **TCZ-SC** **q2w/qw****(n = 14)** |
| **DAS28-ESR** |  |  |  |  |  |  |
|  **Δ from baseline, mean (SD)** | −2.10c | −0.89c | −2.31 (1.51) | −1.13 (0.97) | −2.51 (1.56) | −2.19 (0.84) | −3.19 (1.76) | −2.93 (1.14) |
|  **Remission, % (n)a** | 19.0 (4) | 10.0 (2) | 21.1 (4) | 11.8 (2) | 27.8 (5) | 40.0 (6) | 42.9 (6) | 57.1 (8) |
|  **LDA, % (n)a** | 23.8 (5) | 15.0 (3) | 21.1 (4) | 17.6 (3) | 5.6 (1) | 26.7 (4) | 14.3 (2) | 21.4 (3) |
|  **MDA, % (n)a** | 33.3 (7) | 45.0 (9) | 36.8 (7) | 52.9 (9) | 55.6 (10) | 26.7 (4) | 42.9 (6) | 21.4 (3) |
|  **HDA, % (n)a** | 23.8 (5) | 30.0 (6) | 21.1 (4) | 17.6 (3) | 11.1 (2) | 6.7 (1) | 0 | 0 |
| **CDAI** |  |  |  |  |  |  |
|  **Δ from baseline, mean (SD)** | −16.0c | −8.74c | −19.0 (13.7) | −11.2 (8.4) | −20.3 (14.1) | −15.4 (7.3) | −25.2 (14.8) | −21.4 (12.3) |
|  **Remission, % (n)b** | 4.8 (1) | 0 | 5.3 (1) | 0 | 16.7 (3) | 20.0 (3) | 21.4 (3) | 35.7 (5) |
|  **LDA, % (n)b** | 28.6 (6) | 35.0 (7) | 31.6 (6) | 41.2 (7) | 22.2 (4) | 46.7 (7) | 42.9 (6) | 28.6 (4) |
|  **MDA, % (n)b** | 42.9 (9) | 20.0 (4) | 42.1 (8) | 23.5 (4) | 38.9 (7) | 20.0 (3) | 28.6 (4) | 35.7 (5) |
|  **HDA, % (n)b** | 23.8 (5) | 45.0 (9) | 21.1 (4) | 35.3 (6) | 22.2 (4) | 13.3 (2) | 7.1 (1) | 0 |
| **TJC28, Δ from baseline, mean (SD)** | −6.7 (8.6) | −2.4 (4.4) | −7.8 (7.8) | −3.5 (3.6) | −7.7 (7.1) | −4.7 (3.2) | −9.1 (7.4) | −7.0 (6.2) |
| **TJC68, Δ from baseline, mean (SD)** | −9.1 (11.8) | −4.1 (6.1) | −10.7 (10.5) | −5.4 (5.3) | −10.9 (9.3) | −7.2 (4.8) | −11.4 (9.9) | −10.5 (8.6) |
| **SJC28, Δ from baseline, mean (SD)** | −5.1 (5.7) | −2.6 (4.7) | −5.5 (5.0) | −3.1 (4.8) | −6.6 (7.0) | −4.2 (3.9) | −8.4 (6.9) | −5.9 (5.1) |
| **SJC66, Δ from baseline, mean (SD)** | −6.0 (8.0) | −3.7 (5.8) | −6.8 (7.0) | −4.5 (5.7) | −7.7 (9.7) | −5.7 (4.7) | −10.6 (10.2) | −8.0 (5.3) |
| **Patient global VAS, Δ from baseline, mean (SD), mm** |  −17.7 (29.5) | −13.5 (27.8) | −23.2 (25.1) | −19.5 (25.6) | −25.2 (28.3) | −24.4 (23.0) | −34.9 (28.0) | −33.1 (24.9) |
| **Physician global VAS, Δ from baseline, mean (SD), mm** | −29.7 (24.7) | −18.8 (28.1) | −33.5 (19.9) | −26.6 (21.6) | −34.9 (18.0) | −39.7 (20.0) | −43.1 (15.4) | −51.4 (26.9) |
| **Patient pain VAS, Δ from baseline, mean (SD), mm** | −16.9 (28.0) | −12.1 (24.6) | −22.3 (23.1) | −17.4 (22.8) | −20.6 (25.4) | −22.4 (24.4) | −27.2 (30.2) | −34.1 (23.2) |
| **JHAQ, Δ from baseline, mean (SD)** | −0.200 (0.536) | −0.063 (0.338) | −0.283 (0.397) | −0.132 (0.301) | −0.326 (0.420) | −0.250 (0.369) | −0.339 (0.437) | −0.393 (0.389) |
| **ACR20, % (n)** | 52.4 (11) | 20.0 (4) | 57.9 (11) | 23.5 (4) | 72.2 (13) | 73.3 (11) | 85.7 (12) | 85.7 (12) |
| **ACR50, % (n)** | 38.1 (8) | 15.0 (3) | 42.1 (8) | 17.6 (3) | 33.3 (6) | 33.3 (5) | 71.4 (10) | 64.3 (9) |
| **ACR70, % (n)** | 14.3 (3) | 15.0 (3) | 15.8 (3) | 17.6 (3) | 27.8 (5) | 26.7 (4) | 42.9 (6) | 35.7 (5) |
| **CRP, Δ from baseline, mean (SD), mg/dL** | −1.2 (4.3) | 0.17 (2.2) | −2.1 (2.9) | −0.094 (2.1) | −1.9 (3.0) | −1.2 (1.3) | −1.6 (3.1) | −1.2 (1.3) |
| **CRP ≤ 0.3 mg/dL, % (n)** |  81.0 (17) | 55.0 (11) | 89.5 (17) | 64.7 (11) | 77.8 (14) | 100.0 (15) | 92.9 (13) | 100.0 (14) |
| **ESR, Δ from baseline, mean (SD), mm/h** | −22.5 (22.0) | −2.6 (20.2) | −22.9 (22.6) | −5.5 (20.4) | −25.8 (36.5) | −21.3 (18.6) | −24.9 (33.5) | −25.3 (21.9) |

ACR20/50/70, 20%, 50%, or 70% improvement in American College of Rheumatology criteria; CDAI, Clinical Disease Activity Index; CRP, C-reactive protein; DAS28-ESR, Disease Activity Score based on 28 joints using erythrocyte sedimentation rate; ESR, erythrocyte sedimentation rate; HDA, high disease activity; JHAQ, Japanese health assessment questionnaire; LDA, low disease activity; LOCF, last observation carried forward; MDA, moderate disease activity; q2w, every other week; qw, every week; RA, rheumatoid arthritis; SC, subcutaneous; SJC, swollen joint count using 28 or 66 joints; TCZ, tocilizumab; TJC, tender joint count using 28 or 68 joints; VAS, visual analogue scale.

a DAS28-ESR remission was defined as DAS28-ESR < 2.6, LDA as 2.6 ≤ DAS28-ESR ≤ 3.2, MDA as 3.2 < DAS28-ESR ≤ 5.1 and HDA as DAS28-ESR > 5.1.

b CDAI remission was defined as CDAI ≤ 2.8, LDA as 2.8 < CDAI ≤ 10, MDA as 10 < CDAI ≤ 22 and HDA as CDAI > 22.

c Adjusted for DAS28-ESR at randomization using analysis of covariance.