

Supplementary Table-1: Demographic and clinical characteristics of patients with SRDs.

| Parameter | Vaccination status | | |
|---|------------------------|----------------------------|------------------------------|
| | Unvaccinated (n=60) | Fully-vaccinated (n=36) | Booster-vaccinated (n=65) |
| Age (years), mean±SD | 48.2 ± 14.9 | 44.3 ± 14.1 | 49.3± 16.3 |
| Female gender, n (%) | 37 (61.7) | 26 (72.2) | 49 (75.4) |
| BMI, mean±SD | 27.5 ± 6.5 | 26.6 ± 6.2 | 25.3± 5.1 |
| Current smoker, n (%) | 13 (21.6) | 8 (22.2) | 10 (15.4) |
| SRD | | | |
| Inflammatory arthritis, n (%) | 29 (48.3) | 17(47.2) | 36 (55.4) |
| Connective tissue diseases [#] , n (%) | 22 (36.7) | 12 (33.3) | 24 (36.9) |
| Systemic vasculitis, n (%) | 4 (6.7) | 6 (16.6) | 1 (1.5) |
| Autoinflammatory, n (%) | 5 (8.3) | 1 (2.8) | 4 (6.1) |
| Comorbidities, n (%) | | | |
| Diabetes, n (%) | 3 (5.0) | 0 (0.0) | 5 (7.7) |
| Hypertension, n (%) | 8 (13.3) | 3(8.3) | 14 (21.5) |
| Cardiovascular disease, n (%) | 0 (0.0) | 1(2.8) | 1 (1.5) |
| Stroke, n (%) | 2 (3.3) | 1(2.8) | 4 (6.1) |
| Lung disease, n (%) | 10 (16.7) | 1(2.8) | 13 (20.0)* |
| Malignancy, n (%) | 2 (3.3) | 0(0.0) | 2 (3.1) |
| Disease status | | | |
| Remission | 37 (61.7) | 23 (63.9) | 47 (70.7) |
| Low disease activity | 20 (33.3) | 8 (22.2) | 15 (24.6) |
| Moderate disease activity | 3 (5.0) | 3 (8.3) | 3 (4.6) |
| High disease activity | 0 (0.0) | 2 (5.6) | 0 (0.0) |
| Treatment currently received | | | |
| Glucocorticoids, n (%) | 19 (31.7) | 12 (33.3) | 27 (41.5) |
| csDMARDs, n (%) | 29 (48.3) | 15 (41.7) | 37 (55.5) |
| Apremilast, n (%) | 3 (5.0) | 0 (0.0) | 1 (1.5) |
| JAK inhibitors, n (%) | 2 (3.3) | 1 (2.8) | 3(4.6) |
| bDMARDs, n (%) | 20 (33.3) | 12 (33.3) | 22 (33.8) |
| Rituximab, n (%) | 0 (0.0) | 1(2.8) | 0 (0.0) |
| Other immunosuppressants [^] , n (%) | 8 (13.3) | 6 (16.6) | 4 (6.1) |
| Type of vaccines | | | |
| BNT162b2 (Pfizer–BioNTech), n (%) | NA | 31 | 62 |
| mRNA-1273 (Moderna), n (%) | NA | 1 | 2 |
| ChAdOx1 nCoV-19 (Astra-Zeneca), n (%) | NA | 4 | 0 |
| Ad26.CoV2.S (Johnson & Johnson), n (%) | NA | 0 | 1 |

n: number, SD: standard deviation, SRD: systemic rheumatic disease, BMI: body mass index, csDMARDs: conventional synthetic disease modifying antirheumatic drugs, bDMARDs: biologic DMARDs, NA: not applicable, *p=0.04

[#]Connective tissue diseases: SLE, Systemic sclerosis, anti-phospholipid syndrome, mixed connective tissues disease, [^] mycophenolate mofetil, azathioprine, cyclosporine

Supplementary Table 2: Characteristics and outcomes of booster vaccinated individuals with and without SRDs

| | Booster-vaccinated individuals without SRD (n=80) | Booster-vaccinated patients with SRD (n=65) |
|---|---|---|
| Characteristics | | |
| Age (years), mean±SD | 46.7± 14.3 | 49.3± 16.3 |
| Female gender, n (%) | 50 (62.5) | 49 (75.4) |
| BMI, mean±SD | 25.4 ± 3.9 | 25.3± 5.1 |
| Current smoker, n (%) | 22 (27.5) | 10 (15.4) |
| Comorbidities | | |
| Diabetes, n (%) | 6 (7.5) | 5 (7.7) |
| Hypertension, n (%) | 11 (13.8) | 14 (21.5) |
| Cardiovascular disease, n (%) | 1 (1.3) | 1 (1.5) |
| Stroke, n (%) | 0 (0.0) | 4 (6.1) |
| Lung disease, n (%) | 1 (1.25) | 13 (20.0)* |
| Malignancy, n (%) | 2 (2.5) | 2 (3.1) |
| Time from third vaccine dose to breakthrough Covid-19 (days), mean±SD | 70 ±31 | 81 ±66 |
| Type of vaccines | | |
| BNT162b2 (Pfizer–BioNTech), n (%) | 71 | 62 |
| mRNA-1273 (Moderna), n (%) | 6 | 2 |
| ChAdOx1 nCoV-19 (Astra- Zeneca), n (%) | 3 [^] | 0 |
| Ad26.CoV2.S (Johnson & Johnson), n (%) | 0 | 1 |
| Outcomes | | |
| Non-invasive ventilation, n (%) | 0 (0.0) | 0 (0.0) |
| Hospitalization, n (%) | 1 (1.25) | 2 (3.1) |
| Death, n (%) | 0 (0.0) | 0 (0.0) |

n: number, SD: standard deviation, BMI: body mass index, [^] BNT162b2 as booster, *p= 0.0001