PANLAR 2022 - Abstract Submission

COVID-19

Factors Associated With Mortality In Patients With Rheumatic Diseases And Sars-Cov-2 Infection: Data From Mexico And Argentina.

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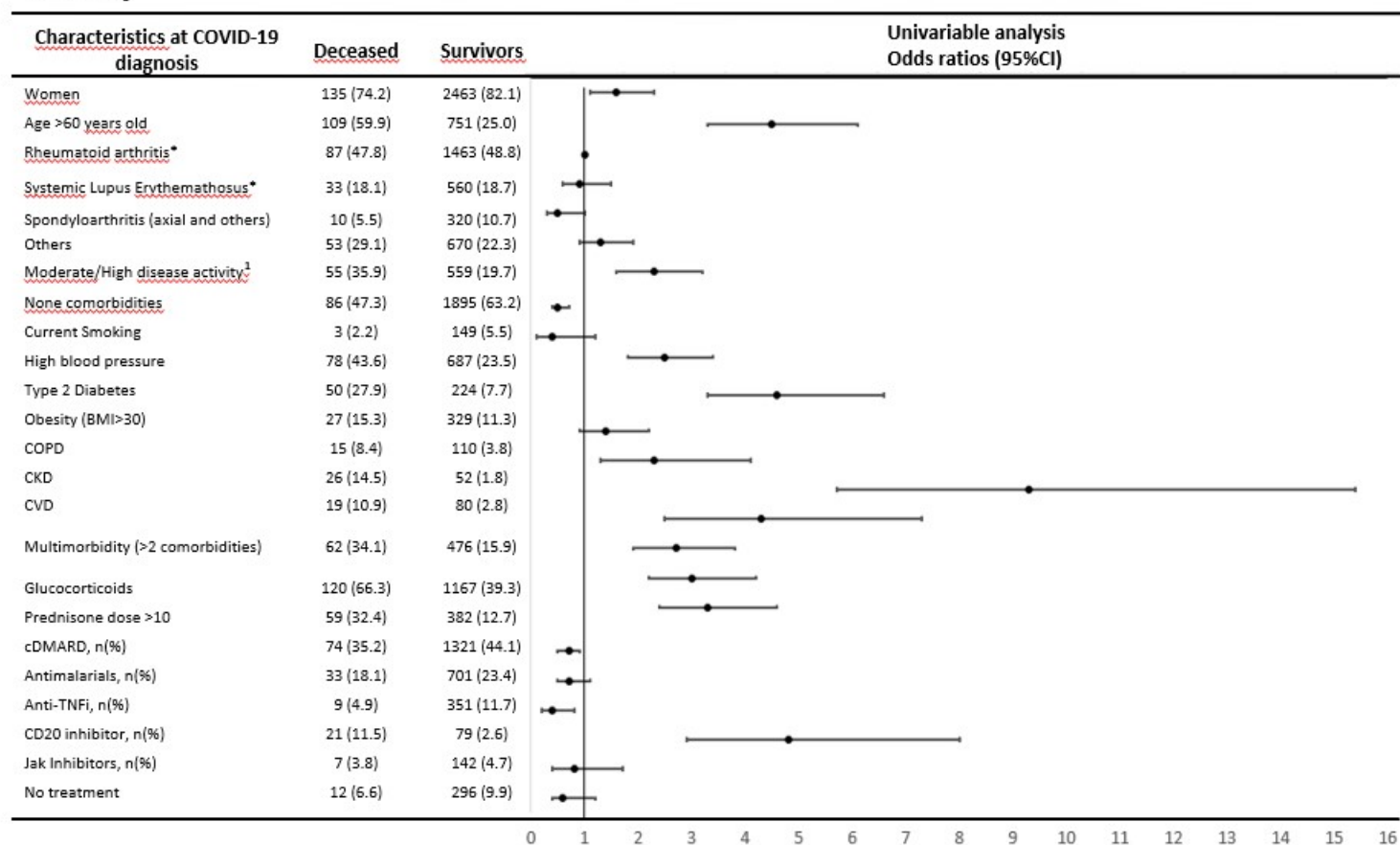
Objectives To assess factors associated with mortality due to COVID-19 in patients with rheumatic immune-mediated inflammatory diseases (IMIDs) from Mexico and Argentina.

Methods Data from both countries' registries, CMR-COVID from Mexico and SAR-COVID from Argentina, were merged. All adult patients with rheumatic IMIDs with SARS-CoV-2 infection registered between 13.08.2020 and 20.02.2022 in SAR-COVID and between 17.04.2020 and 10.02.2022 in CMR-COVID were included in this analysis. Sociodemographic data, comorbidities, IMIDs clinical characteristics and treatment, SARS-CoV-2 infection characteristics, treatment and complications were recorded. Descriptive statistics were used. The association of mortality with demographic and clinical variables at SARS-CoV-2 infection diagnosis was estimated using logistic regression analyses.

Results A total of 3181 patients were registered, 908 (28.5%) from CMR-COVID and 2273 (71.5%) from SAR-COVID. Overall, patients had a mean age of 50.4 years old and 81.7% were women. The most frequent IMIDs were rheumatoid arthritis, 48.7% and systemic lupus erythematosus, 18.6%. A quarter of patients (25.2%) were hospitalized, and 5.7% died. In Mexico, the percentage of death was higher (10%) than in Argentina (4%), p<0.001. Fig 1 shows odds ratios of clinical and demographic factors for mortality in univariable analysis, depicting absence of comorbidities, receiving cDMARDs or TNFi were associated with lower mortality, OR 0.5 (95% CI 0.4-0.7), OR 0.7 (95% CI 0.5-0.9) and OR 0.4 (95% CI 0.2-0.8), respectively. Associated factors with mortality at COVID-19 diagnosis were female sex, age over 60 years old, moderate to high disease activity, type 2 diabetes, chronic renal insufficiency, cardiovascular disease, treatment with glucocorticoids and with CD20 inhibitors in univariable analysis, remaining independently associated in the multivariable adjusted analysis (Fig 2).
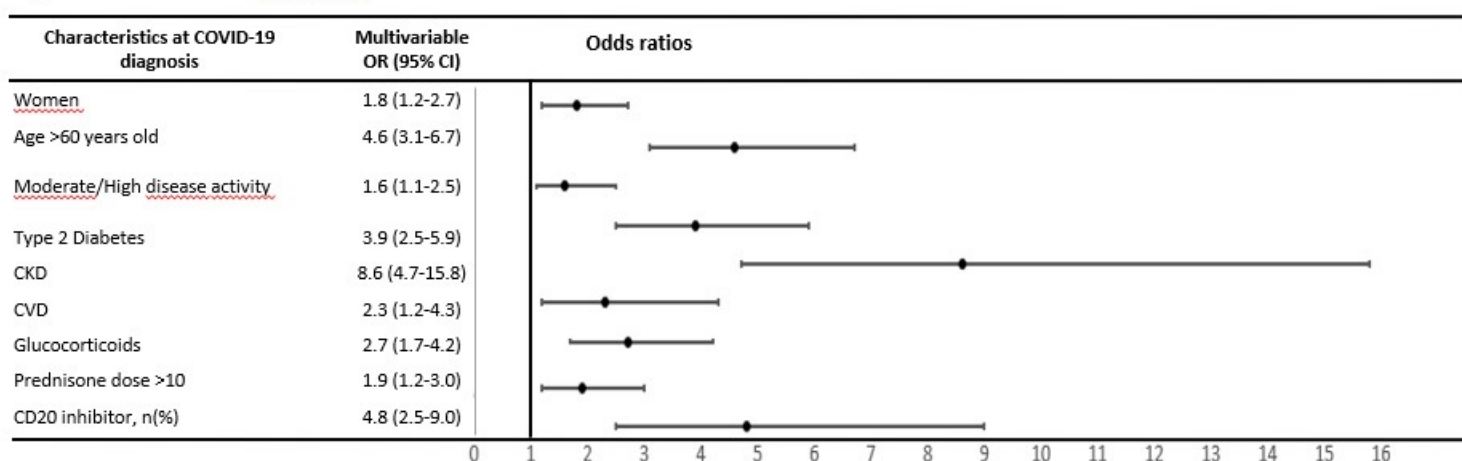
Image 1

Fig 1. Clinical and demographic characteristics of patients with IMIDs and COVID-19 from Mexico and Argentina by mortality

Characteristics at COVID-19 diagnosis	Deceased	Survivors	Univariable analysis Odds ratios (95%CI)
Women	135 (74.2)	2463 (82.1)	
Age >60 years old	109 (59.9)	751 (25.0)	
Rheumatoid arthritis*	87 (47.8)	1463 (48.8)	
Systemic Lupus Erythemathosus*	33 (18.1)	560 (18.7)	
Spondyloarthritis (axial and others)	10 (5.5)	320 (10.7)	
Others	53 (29.1)	670 (22.3)	
Moderate/High disease activity.[1]	55 (35.9)	559 (19.7)	
None comorbidities	86 (47.3)	1895 (63.2)	
Current Smoking	3 (2.2)	149 (5.5)	
High blood pressure	78 (43.6)	687 (23.5)	
Type 2 Diabetes	50 (27.9)	224 (7.7)	
Obesity (BMI>30)	27 (15.3)	329 (11.3)	
COPD	15 (8.4)	110 (3.8)	
CKD	26 (14.5)	52 (1.8)	
CVD	19 (10.9)	80 (2.8)	
Multimorbidity (>2 comorbidities)	62 (34.1)	476 (15.9)	
Glucocorticoids	120 (66.3)	1167 (39.3)	
Prednisone dose >10	59 (32.4)	382 (12.7)	
cDMARD, n(%)	74 (35.2)	1321 (44.1)	
Antimalarials, n(%)	33 (18.1)	701 (23.4)	
Anti-TNFi, n(%)	9 (4.9)	351 (11.7)	
CD20 inhibitor, n(%)	21 (11.5)	79 (2.6)	
Jak Inhibitors, n(%)	7 (3.8)	142 (4.7)	
No treatment	12 (6.6)	296 (9.9)	

Abbreviations: COPD=Chronic Obstructive pulmonary disease; cDMARD (methotrexate, leflunomide and sulfasalazine). *Overlapped, [1] 2985 patients.

Image 2

Fig. 2 Multivariable analysis

Characteristics at COVID-19 diagnosis	Multivariable OR (95% CI)	Odds ratios
Women	1.8 (1.2-2.7)	
Age >60 years old	4.6 (3.1-6.7)	
Moderate/High disease activity	1.6 (1.1-2.5)	
Type 2 Diabetes	3.9 (2.5-5.9)	
CKD	8.6 (4.7-15.8)	
CVD	2.3 (1.2-4.3)	
Glucocorticoids	2.7 (1.7-4.2)	
Prednisone dose >10	1.9 (1.2-3.0)	
CD20 inhibitor, n(%)	4.8 (2.5-9.0)	

Conclusion Mortality in patients with IMIDs and COVID-19 in CMR-COVID and SAR-COVID registries was 5.7%, particularly higher in Mexican patients. Factors associated with mortality in IMIDs and COVID-19 were those described in the general population, such as older age and comorbidities, and IMIDs specific factors, such as moderate/high disease

activity, use of corticosteroids and CD20 inhibitors treatment. Our findings are in line with previous reports and stress the importance of adequate disease control and treatment.