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OP0285

COVID-19 HOSPITALIZATIONS, ICU ADMISSION, AND DEATH AMONG PATIENTS WITH IMMUNE MEDIATED INFLAMMATORY DISEASES (IMID) – A POPULATION-BASED STUDY

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Background: It remains unclear whether patients with IMID are at greater risk for severe COVID-19.

Objectives: To investigate the risk of COVID-19 hospitalizations and their outcomes in patients with IMID compared with matched non-IMID patients from the general population.

Methods: A population-based, matched cohort study was conducted in adults living in Ontario, Canada using health administrative data. Ten cohorts of the following IMID were assembled: rheumatoid arthritis, psoriasis, psoriatic arthritis, ankylosing spondylitis, systemic autoimmune rheumatic diseases (SARDs), including systemic lupus, systemic sclerosis, Sjogren's, myositis), multiple sclerosis (MS), iritis, inflammatory bowel disease, polymyalgia rheumatica (PMR), and vasculitis (including giant cell arteritis and other types of vasculitides). Each patient was matched with 5 non-IMID comparators based on age, sex, area of residence and living in long-term care (LTC). Patients who were admitted to hospital from January 1st to July 31st, 2020 and had ICD-10 COVID-19 diagnosis codes (U07.2 or U07.1) were identified. Among those with COVID-19 hospitalizations, we determined those with admissions to intensive care unit or required mechanical ventilation or died in hospital ('complicated hospitalization'). Age-sex-standardized rates were compared between IMID and non-IMID patients and risk factors for hospitalizations were identified by multivariable logistic regression analysis.

Results: In total, 493,499 IMID (417 hospitalized) and 2,466,946 non-IMID patients (1,519 hospitalized) were assessed. The age-sex-standardized rate of COVID-19 hospitalization was higher in IMID (6.4 per 10,000, 95% confidence interval (CI) 5.8, 7.2) versus non-IMID patients (4.8 per 100,000, 95% CI 4.5, 5). The highest rates of hospitalizations were found in vasculitis (18/10,000), MS (16.7/10,000) and PMR (10.1/10,000). IMID diagnosis was associated with 37% higher risk of being hospitalized for COVID-19 (Odds Ratio (OR) 1.37, 95% CI 1.23, 1.53) (Figure 1). This risk was slightly attenuated after adjusting for socio-demographic factors and comorbidities but remained elevated by 23% compared to non-IMID (OR 1.23, 95% CI 1.10, 1.37). The risk for hospitalizations was increased in RA, vasculitis, SARDs, PsA, MS and iritis (Figure 1). Risk factors for COVID-19 hospitalizations included older age, male sex, lower income, multi-morbidity and living in long-term care (Table 1). The risk for complicated COVID-19 hospitalizations was higher by 21% in IMID patients (OR 1.21, 95% CI 1.02, 1.43), however, this association was attenuated after adjustment for demographics and comorbidities (OR 1.08).

Table 1. Risk Factors for COVID-19 Hospitalizations in IMIDs vs. non-IMIDs

Variable	OR	95% CI
IMIDs vs. Non-IMID	1.23	1.10, 1.37
Age (10 yrs)	1.49	1.44, 1.54
Sex: Female	0.68	0.62, 0.75
Long term care resident	8.28	7.32, 9.37
ADG: 5-9 vs. 0-4	1.45	1.22, 1.71
10-14 vs. 0-4	2.26	1.92, 2.67
15+ vs. 0-4	3.23	2.73, 3.82
Income (quintile)		
Quintile 2 vs. 1	0.82	0.73, 0.93
Quintile 3 vs. 1	0.76	0.67, 0.86
Quintile 4 vs. 1	0.56	0.48, 0.64
Quintile 5 vs. 1	0.46	0.40, 0.54
Urban vs. rural	4.33	3.32, 5.67

ADG - Aggregated Diagnosis Groups

Conclusion: Patients with IMID were at higher risk of being hospitalized with COVID-19 and for having complicated hospitalizations. Hospitalization risk was partially independent of their comorbid conditions.

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OP0286

CHARACTERISTICS ASSOCIATED WITH SEVERE COVID-19 OUTCOMES IN SYSTEMIC LUPUS ERYTHEMATOSUS (SLE): RESULTS FROM THE COVID-19 GLOBAL RHEUMATOLOGY ALLIANCE (COVID-19 GRA)

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