
Disclosure of Interests: None declared


OP0245
ASSOCIATION OF BARIATRIC SURGERY WITH THE RISK OF FRACTURE IN PATIENTS WITH OBESITY: A META-ANALYSIS OF REAL-WORLD EVIDENCE

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Background: Evidence from published epidemiological studies found inconsistent evidence on the association of bariatric surgery with fracture risk.

Objectives: To evaluate the impact of bariatric surgery on fracture risk.

Methods: Electronic databases PubMed, and Embase were searched for studies assessing the association between bariatric surgery and fracture risk by two independent investigators. The study search period was from inception to September 2021. Study selection, data extraction, and risk of bias were assessed by investigators independently. Newcastle-Ottawa Scale (NOS) was used to assess the risk of bias. The primary outcome was to compute the pooled fracture risk of the patients before the surgery.

Results: The current study found that bariatric surgery was associated with increased fracture risk. Clinicians should also evaluate the bone health profiling of the patients before the surgery.

REFERENCES:

Disclosure of Interests: Aishwarya Anilkumar. None declared, Sadaf Saeed: None declared, Ehsan Selayed: None declared, Chandrin N. R. Jayatilleke: None declared, Stuart Webber: None declared, Mathew A. Roy Consultant of: Worked as a paid consultant for Kyowa Kirin.


Outcome of COVID-19 in Rheumatic Diseases

OP0247
RISK FACTORS FOR SEVERE COVID-19 OUTCOMES: A STUDY OF IMMUNE-MEDIATED INFLAMMATORY DISEASES, THERAPIES AND COMORBIDITIES IN A LARGE US HEALTHCARE SYSTEM

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Outcome of COVID-19 in Rheumatic Diseases

OP0246
TO SCAN OR NOT TO SCAN (BOTH HIPS) – A BRISTOL EXPERIENCE

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Disclosure of Interests: None declared

Background: The risk of acquiring COVID-19, and the severity of illness if acquired, in the context of immune-mediated inflammatory diseases (IMIDs) and their therapy, remains incompletely understood. Reported infection rates and outcomes have varied depending on the IMIDs being studied, the nature and size of the study populations, and the presence or absence of appropriate control populations. Having more reliable analysis on larger populations is essential for current and future pandemics.

Objectives: Health records from one of the largest health systems in the US are analyzed to determine whether specific IMIDs, including common rheumatologic conditions and specific immunomodulatory drugs, are associated with certain COVID-19 outcomes, using multivariate models that include common chronic comorbidities.

Methods: Patients (pts) with and without IMIDs who were tested for SARS-CoV-2 (n=1,101,431) were identified from the EHR from Providence St. Joseph Health, which serves much of the western US. Immunomodulatory drug therapy was defined as use within three months prior to the first test. Multivariable logistic regression (LR) was applied with machine learning metrics (feature importance, p-value) reported on an 80% training set and AUROC reported on 20% test set.

Results: Rates for positive COVID-19 tests, invasive mechanical ventilation (IMV) and mortality were not greater in the IMID than non-IMID population, whilst hospitalization was similar (Table 1). Importance and statistical significance of selected factors are shown in Figure 1. The most important risk factors for hospitalization were age and heart failure. Heart failure was the most important risk factor for IMV, and age for increased mortality. Diabetes showed weak associations with these three outcomes. Spondyloarthritis was weakly associated with decreased hospitalization, IMV, and death. The use of conventional synthetic disease-modifying antirheumatic drugs (csDMARDs) and corticosteroids (CS) was weakly associated with favorable outcomes whilst other conditions, including rheumatologic, were not worse than those of non-IMID patients. csDMARDs and corticosteroids were weakly associated with hospitalization and RTX with increased mortality. Other therapies were not associated with severe adverse outcomes.

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Conclusion: This analysis of COVID+ patients (n=1,101,431) from a large US health care system analyzes outcomes of patients with and without IMIDs; the majority were rheumatologic IMIDs. Patients with IMIDs had a similar rate of hospitalization, IMV, and death as those without IMIDs. The strongest associations with COVID-19 severity included heart failure and age. Spondyloarthritides was weakly associated with favorable outcomes whilst other conditions, including rheumatologic, were not worse than those of non-IMID patients. csDMARDs and corticosteroids were weakly associated with hospitalization and RTX with increased mortality. Other therapies were not associated with severe adverse outcomes.

Table 1. COVID-19 test results, hospitalization, invasive mechanical ventilation, and mortality

<table>
<thead>
<tr>
<th>Tested for</th>
<th>Hospitalized n (%)</th>
<th>COVID+</th>
<th>COVID+ n (% of IMV)</th>
<th>COVID+ n (% of COVID+)</th>
<th>Mortality n (% of COVID+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All pts</td>
<td>1,101,431</td>
<td>128,962</td>
<td>19,704</td>
<td>1,001 (0.8%)</td>
<td>2,232 (1.7%)</td>
</tr>
<tr>
<td>Pts without selected IMIDs</td>
<td>1,049,007</td>
<td>123,943</td>
<td>18,729</td>
<td>959 (0.8%)</td>
<td>2,165 (1.7%)</td>
</tr>
<tr>
<td>Pts with selected rheumatologic IMIDs</td>
<td>28,411 (2.3%)</td>
<td>2,974</td>
<td>578 (19.4%)</td>
<td>27 (0.9%)</td>
<td>51 (1.7%)</td>
</tr>
<tr>
<td>Pts with other selected IMIDs</td>
<td>24,013 (2.2%)</td>
<td>2,045 (8.5%)</td>
<td>397 (19.4%)</td>
<td>15 (0.7%)</td>
<td>16 (0.8%)</td>
</tr>
</tbody>
</table>

Figure 1. Odds ratio (OR) for selected risk factors for COVID-19 positive test, hospitalization, IMV, and mortality

Selected rheumatologic IMIDs = RA, SpA, PsA, SLE, PsO, SSC; Other selected IMIDs = IBD, MS.

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Background: Individuals with autoimmune rheumatic diseases (ARDs) may be at greater risk of severe COVID-19 outcomes than individuals in the general population.

Objectives: This study assesses the risk of COVID-19-related hospitalization, intensive care unit (ICU) admission, and COVID-19-specific mortality in patients with ARDs compared to matched general population comparators.

Methods: We conducted a population-based cohort study, using administrative datasets from British Columbia, Canada (February 2020-August 2021). Among all test-positive SARS-CoV-2 adults, we used ICD codes to identify all individuals with an ARD: rheumatoid arthritis (RA), psoriasis/psoriatic arthritis (PsO/PsA), ankylosing spondylitis (AS), and systemic autoimmune rheumatic diseases (SARDs), including systemic lupus erythematosus (SLE), Sjogren’s syndrome, systemic sclerosis, myositis, and adult systemic vasculitides. Individuals with an ARD were matched 1:5 to general population test-positive SARS-CoV-2 individuals on age (± 5 years), sex, month/year of initial positive SARS-CoV-2 test, and health authority. Conditional logistic regression models adjusting for socioeconomic status, Charlson comorbidity index, hypertension, rural address, and number of previous COVID-19 PCR tests were performed to assess risk of COVID-19-related hospitalizations, ICU admissions, and COVID-19-specific mortality (mortality with primary ICD code for COVID-19).

Results: The risk of COVID-19-related hospitalization was significantly increased for patients with ARDs overall (aOR: 1.30) (Table 1). Within ARDs, the patient group at greatest risk of hospitalization was adult systemic vasculitides (aOR: 2.18). The risk of ICU admission was significantly increased for patients with ARDs overall (aOR: 1.30). Within ARDs, the patient group at greatest risk of ICU admission was those with AS (aOR: 2.03). The risk of COVID-19-specific mortality was significantly increased for patients with ARDs overall (aOR: 1.24). Within ARDs, the patient group at greatest risk of COVID-19-specific mortality was those with AS (aOR: 2.15).

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