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EMERGENCY GENERAL SURGERY IN COVID-19 PATIENTS: A META-ANALYSIS

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Abstract

Background. *The Coronavirus disease of 2019 (COVID-19) pandemic has significantly disrupted healthcare systems, including the management of emergency general surgery. Although the pandemic has officially ended, the new variants are continuously emerging, underscoring to need to standardize the management protocols of emergency general surgery in COVID-19 patients.*

Objective. *This meta-analysis aims to evaluate the outcomes of emergency general surgery in COVID-19 patients compared to non-COVID-19 patients, focusing on mortality, postoperative complications, mechanical ventilation, and Intensive Care Unit admissions.*

Methods. *A systematic search was conducted using PubMed, Embase, Cochrane Library, Scopus, and Web of Science databases, including studies published between December 2019 and the present. Observational studies, cohort studies, case-control studies, and randomized controlled trials reporting outcomes of emergency general surgery in adult patients with and without COVID-19 were included. A random-effects meta-analysis model was employed, and heterogeneity was assessed using the I^2 statistic. Publication bias was evaluated using funnel plot.*

Results. *The analysis included 10 studies encompassing 7559 patients (3118 COVID19 group, 4441 non-COVID19 group). COVID-19 group patients demonstrated significantly higher mortality having odds ratio (OR) of 3.0036 with 95% Confidence Interval (95% CI) of 2.4263, 3.7184, and risk ratio of 2.8333 (95% Cl: 2.3127, 3.4712).*

Conclusion. *Emergency general surgery in COVID-19 patients is associated with worse outcomes, including increased mortality, higher complication rates, and increased intensive care unit admissions. These findings highlight the need for tailored perioperative strategies for COVID patients to mitigate risks.*

Keywords: *COVID-19, Corona virus, Emergency general surgery, Appendicitis, Acute cholecystitis, Pandemic.*

Introduction

The emergence of COVID-19 has imposed unprecedented challenges on global healthcare systems. First reported from Wuhan, China, in December 2019, it spread rapidly around the world and a global pandemic was declared by World Health Organization in March 2020 [*Lescure FX et al., 2020; Machhi J et al., 2020; Tadesse S, Muluye W, 2020; Brown WA et al., 2021*]. Most COVID-19 patients developed mild-moderate upper respiratory tract symptoms (fever, cough & fatigue) [*Huang C et al.,*

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