

Acute Pancreatitis Associated with Severe COVID-19: A Cross-Sectional Study

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ABSTRACT

Background: There is a growing body of evidence suggesting that the pancreas is an organ targeted by the SARS-CoV-2 virus. Acute pancreatitis has been demonstrated to be a presenting feature of COVID-19 in observational studies and case series. However, none of those studies examined the correlation between COVID-19 severity and acute pancreatitis.

Purpose: This study investigates the association between acute pancreatitis and severe cases of COVID-19.

Methods: This cross-sectional study recruited COVID-19 patients who presented with acute pancreatitis. COVID-19 was confirmed via a PCR test or a CT scan of the chest or abdomen. Abdominal CT scans and pancreatic enzymes were used to diagnose acute pancreatitis. The severity of COVID-19 was assessed and classified according to the National Institutes of Health classification. ANOVA was used to test the association between acute pancreatitis and COVID-19 severity.

Results: Thirty-two COVID-19 patients with acute pancreatitis enrolled in this study. The mean age of the participants was 57.6 ± 12.5 years. The patients' mean serum pancreatic enzyme level was 419.5 ± 160.6 U/L and 290 ± 114 U/L for lipase and amylase, respectively. There was a significant positive correlation between the level of pancreatic enzymes and COVID-19 severity, ferritin level and C-reactive protein.

Conclusions: Acute pancreatitis is associated with severe COVID-19. Higher levels of pancreatic enzymes were reported among more severe COVID-19 cases.

Key words: COVID-19, acute pancreatitis, lipase, amylase, ferritin

INTRODUCTION

Coronaviruses are a group of related RNA viruses that cause diseases in mammals and birds. Over the last 20 years, several viral epidemic diseases have emerged that represent a serious issue for public health [e.g., severe acute respiratory syndrome coronavirus (SARS-CoV) in 2002, H1N1 influenza in 2009, and most recently, the Middle East respiratory syndrome coronavirus (MERS-CoV) in 2012 (1)].

Received: 04.12.2023

Accepted: 15.02.2024

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