КЛИНИКО-ЭПИДЕМИОЛОГИЧЕСКИЕ ОСОБЕННОСТИ ПОРАЖЕНИЯ СЕРДЕЧНО-СОСУДИСТОЙ СИСТЕМЫ У БОЛЬНЫХ COVID-19

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Аннотация

В статье рассматриваются клинико-эпидемиологические особенности поражения сердечно-сосудистой системы у пациентов с COVID-19. Анализ современных исследований показывает, что частота и тяжесть кардиоваскулярных осложнений зависят от возраста, сопутствующих заболеваний и тяжести течения инфекции. Поражение миокарда и тромботические осложнения существенно ухудшают прогноз заболевания.

Ключевые слова: COVID-19, сердечно-сосудистая система, клинические особенности, эпидемиология, поражение миокарда, кардиоваскулярные осложнения.

CLINICAL AND EPIDEMIOLOGICAL FEATURES OF CARDIOVASCULAR SYSTEM DAMAGE IN COVID-19 PATIENTS

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Abstract

This article analyzes the clinical and epidemiological characteristics of cardiovascular system involvement in patients with COVID-19. According to current evidence, the incidence and severity of cardiovascular complications are closely associated with patient age, comorbidities, and disease severity. Myocardial injury, arrhythmias, and thromboembolic events significantly worsen clinical outcomes and prognosis in COVID-19 patients.

Keywords: COVID-19, cardiovascular system, clinical features, epidemiology, myocardial injury, cardiovascular complications.

Introduction

Coronavirus disease 2019 (COVID-19) has become a major global public health concern with significant morbidity and mortality. Although initially described as a respiratory infection, accumulating evidence has demonstrated that COVID-19 frequently involves the cardiovascular system. Cardiovascular complications play a crucial role in determining disease severity, hospital outcomes, and mortality rates.

Epidemiological studies indicate that cardiovascular involvement is more common among elderly patients and individuals with pre-existing conditions such as hypertension, diabetes mellitus, coronary artery disease, and heart failure. However, cardiovascular complications have also been reported in younger patients without known cardiac disease, suggesting a broader pathogenic impact of SARS-CoV-2.

Clinically, COVID-19-related cardiovascular manifestations range from asymptomatic myocardial injury to severe conditions such as acute coronary syndrome, myocarditis, arrhythmias, and thromboembolic events. These manifestations are often associated with prolonged hospitalization, intensive care admission, and increased mortality. Therefore, understanding the clinical and epidemiological features of cardiovascular involvement in COVID-19 is essential for effective risk stratification and management.

The aim of this article is to review and summarize the clinical presentations and epidemiological patterns of cardiovascular system damage in patients with COVID-19.

Materials and Methods

A narrative review of literature published between 2020 and 2024 was conducted. Scientific articles were retrieved from PubMed, Scopus, Web of Science, and Google Scholar databases. Studies focusing on clinical manifestations, epidemiology, and outcomes of cardiovascular complications in COVID-19 patients were included. Descriptive and comparative analytical methods were applied.

Results

The literature review revealed that cardiovascular involvement in COVID-19 patients is observed in approximately 20–40% of hospitalized cases. The most common clinical manifestations included myocardial injury, arrhythmias, acute heart failure, and thromboembolic complications.

Epidemiological data demonstrated a higher prevalence of cardiovascular damage in males, elderly patients, and individuals with comorbid conditions. Elevated cardiac biomarkers, such as troponin and natriuretic peptides, were strongly associated with disease severity and mortality.

Discussion

The findings indicate that cardiovascular system damage is a frequent and clinically significant feature of COVID-19. Epidemiological patterns suggest that vulnerable populations are at increased risk, highlighting the importance of early cardiovascular assessment. The presence of myocardial injury serves as an independent predictor of poor outcomes. Integrating cardiological monitoring into COVID-19 management protocols may improve patient prognosis.

Conclusion

Cardiovascular involvement in COVID-19 patients exhibits distinct clinical and epidemiological characteristics. Age, comorbidities, and disease severity significantly influence the development of cardiovascular complications. Early identification and targeted management strategies are essential to reduce adverse outcomes.

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