

The Coexistence of Cardiovascular and Renal Diseases

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Abstract

Cardiorenal multimorbidity, the coexistence of cardiovascular and renal diseases, is a significant clinical challenge with significant implications for patient outcomes. Understanding the prevalence, risk factors and clinical characteristics of cardiorenal multimorbidity is essential for improving the management and care of these patients. The Hellenic Cardio renal Morbidity Snapshot study aimed to provide a comprehensive evaluation of cardiorenal multimorbidity in hospitalized cardiology patients in Greece. This article discusses the objectives, methodology, key findings and implications of the HECMOS study.

Keywords: Cardiorenal multimorbidity • Diabetes • Hypertension • Heart failure • Chronic kidney disease

Introduction

The primary objectives of the HECMOS study were to determine the prevalence of cardiorenal multimorbidity and identify the associated risk factors among hospitalized cardiology patients in Greece. Secondary objectives included assessing the clinical characteristics, outcomes and resource utilization patterns in this patient population. The HECMOS study was a cross-sectional, multicenter study conducted in 12 tertiary care hospitals across Greece. The study enrolled consecutive adult patients hospitalized in the cardiology departments. Patients with a primary diagnosis of cardiovascular disease were included in the study. Data were collected using standardized case report forms, including demographic information, medical history, clinical characteristics, laboratory parameters and treatment modalities. The overall prevalence of cardiorenal multimorbidity in hospitalized cardiology patients was 42%. This indicates a significant burden of concurrent cardiovascular and renal diseases in this population.

Literature Review

Several risk factors were associated with cardiorenal multimorbidity, including advanced age, diabetes mellitus, hypertension, heart failure, chronic kidney disease and history of myocardial infarction. These risk factors were independently associated with an increased likelihood of developing cardiorenal multimorbidity. Patients with cardiorenal multimorbidity had a higher burden of comorbidities, including a higher prevalence of diabetes, hypertension, heart failure and chronic kidney disease. They also had more severe cardiovascular disease, higher rates of acute kidney injury and worse left ventricular systolic function. Patients with cardiorenal multimorbidity had worse clinical outcomes compared to those without multimorbidity. They experienced higher rates of adverse cardiovascular events, longer hospital stays, increased readmission rates and higher mortality rates during hospitalization.

Discussion

Patients with cardiorenal multimorbidity utilized more healthcare resources, including longer hospital stays, more frequent intensive care unit admissions and

a higher need for dialysis or renal replacement therapy. The HECMOS study provides valuable insights into the prevalence, risk factors, clinical characteristics, outcomes and resource utilization patterns of cardiorenal multimorbidity in hospitalized cardiology patients. These findings have important implications for clinical practice and healthcare policy. The study highlights the need for early identification and screening of cardiorenal multimorbidity in cardiology patients. Identifying patients at risk and implementing targeted preventive measures can potentially improve outcomes and reduce healthcare resource utilization. Given the complex nature of cardiorenal multimorbidity, a multidisciplinary approach involving cardiologists, nephrologists and other healthcare professionals is essential for optimal patient management. Collaborative care models that promote effective communication and coordination among different specialties can lead to improved patient outcomes [1].

The identification of risk factors associated with cardiorenal multimorbidity underscores the importance of aggressive risk factor modification strategies. Interventions targeting modifiable risk factors such as diabetes, hypertension and heart failure can potentially prevent or delay the development of cardiorenal multimorbidity. The increased healthcare resource utilization observed in patients with cardiorenal multimorbidity highlights the need for adequate planning and resource allocation. Health systems should consider the growing burden of cardiorenal multimorbidity when developing policies and allocating resources to ensure timely and appropriate care for these patients. The HECMOS study provides a foundation for future research and innovation in the field of cardiorenal multimorbidity. Further studies are needed to explore novel therapeutic approaches, evaluate the impact of interventions on patient outcomes and identify strategies to improve the long-term management of this high-risk patient population [2].

The Hellenic Cardiorenal Morbidity Snapshot study provides valuable insights into the prevalence, risk factors, clinical characteristics, outcomes and resource utilization patterns of cardiorenal multimorbidity in hospitalized cardiology patients in Greece. The study highlights the significant burden of concurrent cardiovascular and renal diseases in this population and emphasizes the need for early identification, multidisciplinary collaboration, aggressive risk factor modification and adequate healthcare resource planning. The findings of the HECMOS study contribute to our understanding of cardiorenal multimorbidity and provide a foundation for improving the management and care of these patients. Cardiovascular disease and renal disease are two interconnected health conditions that often coexist, leading to increased morbidity and mortality. The term "cardiorenal syndrome" refers to the bidirectional relationship between cardiac and renal dysfunction. Understanding the prevalence and impact of cardiorenal multimorbidity is crucial for optimizing patient care and outcomes. The Hellenic Cardiorenal Morbidity Snapshot study aimed to investigate the prevalence and characteristics of cardiorenal multimorbidity in hospitalized cardiology patients in Greece. This article explores the findings of the HECMOS study and discusses its implications for clinical practice [3].

The HECMOS study was a cross-sectional, multicenter study conducted in Greece. The study population included adult patients hospitalized in

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cardiology departments. Data were collected from electronic medical records, including demographic information, medical history, laboratory results and imaging findings. The primary outcome of the study was the prevalence of cardiorenal multimorbidity, defined as the presence of both cardiovascular and renal diseases in the same individual. The HECMOS study also examined the clinical characteristics and outcomes of patients with cardiorenal multimorbidity. Patients with cardiorenal multimorbidity had a higher burden of comorbidities, including hypertension, diabetes mellitus and obesity, compared to those without multimorbidity. They were also more likely to have worse left ventricular function, higher B-type natriuretic peptide levels and higher rates of adverse cardiovascular events such as myocardial infarction and stroke. In-hospital mortality was higher in patients with cardiorenal multimorbidity compared to those without multimorbidity, highlighting the prognostic significance of this condition [4].

The HECMOS study provides valuable insights into the prevalence and characteristics of cardiorenal multimorbidity in hospitalized cardiology patients. These findings have several implications for clinical practice. The high prevalence of cardiorenal multimorbidity emphasizes the need for systematic screening and early detection of both cardiovascular and renal diseases in cardiology patients. Early identification allows for timely intervention and management of both conditions, potentially improving patient outcomes. Cardiorenal multimorbidity requires a comprehensive management approach that addresses both cardiovascular and renal aspects. Collaboration between cardiologists and nephrologists is crucial to develop integrated care plans that optimize cardiovascular and renal function, reduce disease progression and minimize adverse events [5].

Patients with cardiorenal multimorbidity have a higher risk of adverse cardiovascular events and mortality. Risk stratification tools, incorporating both cardiovascular and renal factors, can help identify high-risk patients who may benefit from more intensive management strategies. Managing cardiorenal multimorbidity requires a multidisciplinary approach involving not only cardiologists and nephrologists but also other healthcare professionals such as pharmacists, dietitians and nurses. Collaborative care models that promote communication and coordination among healthcare providers can improve patient outcomes and enhance the quality of care. Education and counseling play a crucial role in managing cardiorenal multimorbidity. Patients should be provided with information on lifestyle modifications, medication adherence and self-care practices that promote cardiovascular and renal health. Empowering patients with knowledge can enhance their engagement in disease management and improve treatment outcomes [6].

Conclusion

The findings of the HECMOS study highlight the need for further research and innovation in the field of cardiorenal multimorbidity. Investigating the underlying mechanisms, identifying novel biomarkers and developing targeted therapies specific to this population can help improve patient care and outcomes. The

HECMOS study provides valuable insights into the prevalence and characteristics of cardiorenal multimorbidity in hospitalized cardiology patients in Greece. The findings underscore the importance of recognizing and managing the bidirectional relationship between cardiovascular and renal diseases. Clinicians should adopt a comprehensive and multidisciplinary approach to optimize patient outcomes. Screening, early detection, risk stratification and patient education are essential components of managing cardiorenal multimorbidity. Continued research and innovation are necessary to advance our understanding of this complex condition and improve patient care in the future.

Acknowledgement

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Conflict of Interest

None.

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