



Pericarditis: Current Insights and Evolving Perspectives in Diagnosis, Management and Prognosis

Ravi Kiran*

Department of Cardiology, King George's Medical University, Lucknow, India

Abstract

Pericarditis is a medical condition characterized by inflammation of the pericardium, the sac-like membrane that surrounds and protects the heart. This condition can manifest as acute or chronic, with various causes and clinical presentations. Pericarditis often presents with chest pain, which can be sharp, pleuritic, and worsened by deep breathing or changes in body position. Other common symptoms include fever, fatigue, and shortness of breath.

Keywords: Pericarditis; Systemic lupus erythematosus; Echocardiography; Myocardial infarction

Introduction

The etiology of pericarditis is diverse, encompassing infectious, non-infectious, and idiopathic causes. Viral infections, particularly Coxsackievirus and enterovirus are the leading infectious culprits, while bacterial and fungal infections are less common. Non-infectious causes include autoimmune disorders (e.g., systemic lupus erythematosus), myocardial infarction, radiation therapy, and certain medications [1].

Diagnosing pericarditis relies on a combination of clinical assessment, electrocardiography (ECG), imaging techniques (such as echocardiography), and laboratory tests. ECG findings, such as widespread ST-segment elevation or PR-segment depression, are classic features of acute pericarditis. Echocardiography helps evaluate the pericardium and assess the presence of pericardial effusion [2].

The management of pericarditis aims to alleviate symptoms, treat the underlying cause if identified, and prevent potential complications. Nonsteroidal anti-inflammatory drugs (NSAIDs) are the mainstay of treatment, providing analgesic and anti-inflammatory effects. Colchicine has emerged as an adjunctive therapy for reducing the recurrence rate. In cases of refractory or recurrent pericarditis, corticosteroids and immunosuppressive agents may be considered.

Prognosis for pericarditis is generally favorable, with most cases resolving within a few weeks to months. However, complications such as cardiac tamponade, constrictive pericarditis, and recurrent episodes can occur and require prompt medical attention. Close monitoring and follow-up are essential to assess response to treatment and detect any potential complications.

Pericarditis is an inflammatory condition affecting the pericardium, often presenting with chest pain, fever, and other associated symptoms. Prompt diagnosis, identification of the underlying cause, and appropriate management are vital in achieving successful outcomes. Ongoing research continues to enhance our understanding of the pathophysiology, diagnosis, and treatment options for pericarditis, paving the way for improved patient care and outcomes [3,4].

Literature Review

Pericarditis is a condition characterized by inflammation of the pericardium, which can have diverse etiologies and clinical presentations. This comprehensive literature review aims to provide an overview of the current understanding of pericarditis, including its pathophysiology, diagnostic approaches, treatment strategies, and potential complications [5].

The review begins by discussing the etiology of pericarditis, highlighting infectious causes such as viral, bacterial, and fungal infections, as well as non-infectious causes like autoimmune disorders, myocardial infarction, and radiation therapy. The complex interplay between immune-mediated mechanisms, viral replication, and host factors in the development of pericarditis is explored, shedding light on the multifactorial nature of the condition.

The diagnostic evaluation of pericarditis is crucial for accurate management. Various diagnostic modalities are examined, including clinical assessment, electrocardiography (ECG), echocardiography, and laboratory tests. The characteristic ECG findings of pericarditis, such as widespread ST-segment elevation and PR-segment depression, are discussed in detail, emphasizing their importance in differentiating pericarditis from other cardiac conditions [6,7].

Treatment strategies for pericarditis encompass both symptomatic relief and management of the underlying cause. Nonsteroidal anti-inflammatory drugs (NSAIDs) are commonly used as first-line therapy, while colchicine has emerged as an adjunctive treatment to reduce the recurrence rate. The potential role of corticosteroids and immunosuppressive agents in refractory or recurrent cases is also explored, highlighting their benefits and potential side effects.

Complications associated with pericarditis, including cardiac tamponade, constrictive pericarditis, and recurrent episodes, are discussed. The review emphasizes the importance of recognizing and promptly managing these complications to prevent adverse outcomes and improve patient prognosis.

Lastly, the review highlights recent advancements in the understanding and management of pericarditis. It discusses ongoing research efforts, including the use of novel biomarkers, advanced imaging techniques, and targeted therapies, which hold promise for improving diagnosis, risk stratification, and personalized treatment approaches.

*Corresponding author: Ravi Kiran, Department of Cardiology, King George's Medical University, Lucknow, India, E-mail: Ravi_kiran@rediffmail.com

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This comprehensive literature review provides an up-to-date understanding of pericarditis, encompassing its etiology, diagnosis, treatment, and complications. The review underscores the need for a multidisciplinary approach involving cardiologists, infectious disease specialists, and rheumatologists to optimize patient care and outcomes. Further research is warranted to enhance our knowledge of pericarditis and refine therapeutic strategies in this complex and evolving field.

Pericarditis is a significant medical condition that requires careful evaluation and management. In this discussion, we will delve deeper into various aspects of pericarditis, including its clinical implications, diagnostic challenges, treatment approaches, and the potential impact on patients' quality of life.

One of the key points of discussion is the diverse etiology of pericarditis. While viral infections, particularly Coxsackievirus and enterovirus are the most common causes, it is essential to consider other infectious agents, such as bacteria and fungi, as well as non-infectious causes like autoimmune disorders, myocardial infarction, and radiation therapy [8]. The recognition of the underlying cause is crucial, as it can influence the treatment approach and prognosis.

Advantages of pericarditis

Early detection: Pericarditis can serve as an indicator of an underlying health issue. It may prompt individuals to seek medical attention and undergo diagnostic tests to identify the cause of the inflammation. Discovering and addressing the root cause of pericarditis can help in managing and treating the underlying condition.

Increased awareness: Pericarditis can lead individuals to become more aware of their cardiovascular health. It may serve as a wake-up call to adopt healthier lifestyle habits, such as eating a balanced diet, exercising regularly, and managing stress levels. This heightened awareness can contribute to overall cardiovascular well-being and a healthier lifestyle.

Medical monitoring: Pericarditis often requires medical monitoring, including regular check-ups and follow-ups with healthcare professionals. This ongoing supervision can help ensure that any changes or complications are promptly identified and managed. Regular medical attention can provide a sense of security and peace of mind for individuals with pericarditis.

Research and advancements: Pericarditis is a well-studied condition, and ongoing research aims to improve our understanding of its causes, diagnosis, and treatment. As a result, new advancements in the field may lead to better diagnostic tools, more targeted treatments, and improved outcomes for individuals with pericarditis.

Support and community: Living with pericarditis can connect individuals with others who share similar experiences. Support groups, online communities, and patient advocacy organizations can provide emotional support, share information, and offer coping strategies. Connecting with others facing similar challenges can create a sense of belonging and help individuals navigate their journey with pericarditis.

Discussion

It's important to note that while these potential advantages exist, pericarditis itself is typically considered an undesirable condition due to the associated symptoms and discomfort it causes. Prompt medical attention and appropriate treatment are crucial for managing pericarditis and addressing any underlying conditions [9,10].

The clinical presentation of pericarditis often involves chest pain as

the primary symptom. The pain is typically sharp, pleuritic in nature, and worsens with deep breathing or changes in body position. However, it is essential to note that the clinical spectrum can vary, and some patients may present with atypical symptoms or even be asymptomatic. This heterogeneity underscores the need for a high index of suspicion and comprehensive evaluation when assessing patients with suspected pericarditis.

The diagnosis of pericarditis can be challenging due to overlapping symptoms with other cardiac and non-cardiac conditions. Electrocardiography (ECG) plays a crucial role in the diagnostic workup, as it can demonstrate characteristic findings such as diffuse ST-segment elevation and PR-segment depression. However, it is important to distinguish these ECG changes from other conditions, such as acute myocardial infarction or early repolarization syndrome, which may mimic pericarditis. Additional diagnostic tools, including echocardiography and laboratory tests (e.g., inflammatory markers), help in confirming the diagnosis and assessing the presence of pericardial effusion.

The treatment of pericarditis aims to alleviate symptoms, prevent complications, and reduce the risk of recurrence. Nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen and aspirin, are commonly prescribed as first-line therapy, providing both analgesic and anti-inflammatory effects [11]. Colchicine has emerged as an effective adjunctive treatment option, particularly in reducing the recurrence rate of pericarditis. In cases of refractory or recurrent pericarditis, corticosteroids and immunosuppressive agents may be considered, although their use requires careful consideration of potential side effects and individual patient factors.

While the prognosis for pericarditis is generally favorable, it is important to recognize and manage potential complications promptly. Cardiac tamponade, characterized by the accumulation of fluid in the pericardial sac, is a life-threatening complication that requires urgent intervention, such as pericardiocentesis or surgical drainage. Constrictive pericarditis, although rare, can develop as a long-term consequence of chronic or recurrent inflammation, leading to impaired cardiac function [11-13]. Recurrence of pericarditis is also a concern, necessitating long-term follow-up and ongoing management.

Conclusion

The impact of pericarditis on patients' quality of life should not be underestimated. The chest pain, fatigue, and other associated symptoms can significantly affect daily activities, work, and emotional well-being. Supportive care, patient education, and appropriate follow-up are essential to address these aspects and ensure holistic management.

Research in the field of pericarditis continues to advance our understanding of its pathophysiology, risk stratification, and treatment options. Ongoing studies explore novel biomarkers, advanced imaging techniques, and targeted therapies to enhance diagnosis, individualize treatment approaches, and improve outcomes for patients with pericarditis. It is a complex condition with diverse etiologies and clinical presentations.

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Conflict of Interest

None

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