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CASE REPORT: MANAGEMENT OF VENTRICULAR SEPTAL DEFECT WITH HEPATITIS C IN A 26-YEAR-OLD PATIENT WITH A HISTORY OF SUBSTANCE ABUSE: A MULTIDISCIPLINARY APPROACH

General Medicine

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ABSTRACT

This article presents a case report of a 26-year-old male patient with a known ventricular septal defect (VSD) complicated by a recent diagnosis of Hepatitis C and a history of substance abuse. VSD, a common congenital heart defect, and Hepatitis C, a viral liver infection, pose unique challenges when coexisting in a patient. The patient's delayed VSD diagnosis and untreated condition added complexity to his clinical presentation, which was further complicated by substance abuse and alcoholism. The multidisciplinary management involved addressing the patient's hemodynamic stability and prioritizing the treatment of Hepatitis C before considering VSD surgical intervention. This case highlights the importance of comprehensive care and collaboration among cardiologists, hepatologists, and addiction specialists in managing complex medical conditions in young patients with multiple risk factors

KEYWORDS

INTRODUCTION:

Congenital heart defects (CHDs) are structural abnormalities present at birth, affecting the heart's normal function and blood flow. Among various CHDs, ventricular septal defect (VSD) is one of the most commonly encountered conditions, accounting for approximately 20-30% of all CHD cases worldwide. VSD is characterized by an abnormal communication between the left and right ventricles, leading to a shunting of blood from the higher-pressure left ventricle to the lower-pressure right ventricle.While VSD is often diagnosed during infancy or childhood and can be successfully managed with surgical intervention, some patients may remain undiagnosed or untreated into adulthood, especially in resource-constrained settings. These untreated cases pose unique challenges when they coincide with other medical conditions, such as infectious diseases and substance abuse, which can further complicate patient management and outcome.In this context, we present a compelling case of a 26-year-old male patient with a known VSD, complicated by the recent diagnosis of Hepatitis C, and a history of substance abuse. The case exemplifies the intricate interplay between multiple medical conditions and highlights the importance of a comprehensive approach to patient care.Ventricular septal defect (VSD) is often identified during early childhood due to the presence of characteristic heart murmurs or symptoms associated with cardiac overcirculation. However, some patients, like our subject, may remain undiagnosed until adolescence or adulthood. Untreated VSD can lead to a variety of complications, including congestive heart failure, pulmonary hypertension, and infective endocarditis. In the case presented, the patient had not undergone corrective surgery for his VSD due to financial constraints during childhood, resulting in an increased risk of developing these complications as he grew older.

The moderate size of the VSD, as determined by echocardiography, indicated significant left-to-right shunting and heightened hemodynamic stress on the pulmonary circulation. Furthermore, the patient's medical history revealed a long-standing history of intravenous drug abuse, alcoholism, and smoking. Substance abuse and alcoholism pose additional risks to cardiovascular health and may exacerbate the progression of cardiac disease. The combination of VSD and the patient's lifestyle choices may have contributed to his increasing symptoms of fatigue, dyspnea on exertion, and decreased exercise tolerance. Adding to the complexity of the case, the patient was recently diagnosed with Hepatitis C, a viral infection affecting the liver. The elevated liver enzymes and positive Hepatitis C antibodies on serological testing indicated an active infection, requiring timely management to prevent further liver damage. The coexistence of VSD and Hepatitis C presents a unique challenge, as both conditions demand attention and intervention. Given the patient's stable hemodynamics, the cardiology team chose to prioritize the management of Hepatitis C before considering surgical intervention for VSD closure. This decision underscores the need for a multidisciplinary approach, involving cardiologists, hepatologists, and addiction specialists, to provide comprehensive care for the patient's complex medical conditions. In this article, we aim to explore the various facets of this intriguing case, focusing on the diagnostic assessment, treatment strategies, and the challenges encountered in managing a young patient with VSD, Hepatitis C, and a history of substance abuse. By examining this case in detail, we seek to shed light on the importance of a holistic and patient-centered approach in managing complex medical conditions, emphasizing the collaboration between different medical specialties to optimize patient outcomes. Through this case report, we hope to contribute valuable insights to the medical community and encourage further research into the effective management of similar challenging cases.

CASE DISCUSSION:

Mr. Sivaraman, a 26-year-old male, presented to the cardiology clinic with complaints of increasing fatigue, dyspnea on exertion, and mild jaundice. He had a known medical history of a congenital heart defect, specifically a ventricular septal defect (VSD), which was diagnosed during his childhood. However, he had not received corrective surgery due to financial constraints. The patient revealed a history of intravenous drug abuse, alcoholism, and smoking. He reported occasional binge drinking and frequent use of intravenous drugs, primarily heroin, over the past five years

Presenting Symptoms: John reported experiencing fatigue even with minimal physical activity and noted that his exercise tolerance had decreased over the last few months. Additionally, he observed a yellowish discoloration of his skin and eyes. He denied any recent fever, chills, or abdominal pain. On physical examination, John appeared mildly pale and jaundiced. His blood pressure was 120/80 mmHg, pulse rate 90 beats per minute, and respiratory rate 18 breaths per minute. Auscultation of the chest revealed a grade 3/6 harsh holosystolic murmur heard best at the left lower sternal border, consistent with a VSD. Echocardiography was performed to assess the VSD and revealed a moderate-sized defect measuring approximately 7 mm, with a left-to-right shunt.

The pulmonary artery pressure was within normal limits. The VSD caused increased blood flow through the right ventricle, leading to pulmonary overcirculation. Laboratory tests revealed elevated liver enzymes, with aspartate aminotransferase (AST) and alanine aminotransferase (ALT) levels more than three times the upper limit of normal. Further serological tests confirmed the presence of Hepatitis C antibodies, indicating an active infection.An abdominal ultrasound was performed to assess liver involvement, revealing mild hepatomegaly with no signs of cirrhosis or portal hypertension. The patient's case was managed through a comprehensive and multidisciplinary approach to address the various aspects of his medical conditions.

Cardiology Management: The cardiology team closely monitored the patient's hemodynamic status and assessed the severity of the VSD.Surgical intervention for VSD closure was deferred due to the patient's stable hemodynamic and prioritization of managing Hepatitis C first.

Hepatology Management: The hepatology team initiated antiviral therapy with direct-acting antiviral agents to treat Hepatitis C. Regular liver function tests were scheduled to monitor the treatment response and liver health during the course of antiviral treatment.

Substance Abuse and Addiction Management: The patient was referred to an addiction specialist for comprehensive treatment of substance abuse and alcoholism. A tailored treatment program was designed to address his specific needs and support his recovery journey.

Cardiac Rehabilitation: A cardiac rehabilitation program was recommended to improve the patient's exercise tolerance and overall cardiovascular health.

Lifestyle Recommendations: The patient was strongly advised to abstain from intravenous drug use, alcohol consumption, and smoking to reduce further risks to his cardiac and liver health. Adoption of a healthy lifestyle, including a balanced diet and regular exercise, was emphasized to promote overall well-being.

CONCLUSION:

In conclusion, the case of Mr. Sivaraman, a 26-year-old patient with a ventricular septal defect (VSD), Hepatitis C, and a history of substance abuse, highlights the complex challenges in managing multiple medical conditions in a young adult. This case emphasizes the significance of a comprehensive and multidisciplinary approach to patient care, integrating cardiology, hepatology, and addiction medicine expertise. The delayed diagnosis and untreated VSD, compounded by Hepatitis C and substance abuse, underscore the need for early detection and intervention in congenital heart defects. Timely diagnosis and management can prevent the progression of cardiac complications and improve overall outcomes. The collaborative effort between medical specialties played a vital role in formulating a tailored treatment plan, prioritizing the management of Hepatitis C and addressing substance abuse to optimize the patient's health. Patient education and lifestyle modifications are essential components of long-term care. Empowering patients with knowledge and emphasizing healthy habits enhance treatment compliance and overall well-being. This case report contributes valuable insights to the medical community, advocating for patient-centered and holistic care for individuals facing complex medical scenarios. As medical knowledge evolves, continued research and collaboration will pave the way for improved management strategies, ensuring better quality of life for patients like Mr. Sivaraman with intricate medical needs.

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