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Case Report

Anaesthetic Management of Acute Appendicitis Patient with Myocarditis

Nikhil Jalumurukasi[1], Ravi Madhusudhana[2]

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ABSTRACT

Introduction: Myocarditis is usually difficult to diagnose because its clinical behaviour may be entirely asymptomatic. It is defined as inflammatory changes of the myocardium and could be associated with myocyte necrosis.

Patients with myocarditis are regarded to be of high risk for perioperative complications, necessitating diligent anaesthetic management.

Case Report: A 26-year-old male diagnosed with acute appendicitis, known history of cardiomyopathy and sub clinical hypothyroidism. Patient had history of palpitations and syncope since 2 years, consulted cardiologist diagnosed as cardiomyopathy with suspected myocarditis. He had preceding viral infection 2weeks ago. He was athletic and had satisfactory daily activity. pre-operative evaluation ECG showed sinus bradycardia, second degree atrioventricular block and T wave abnormality. 2d echo showed preserved ejection fraction 55% with LV dilation and normal chamber dimensions and normal pulmonary artery pressure.

Patient was induced as per the standard anaesthesia protocol and maintained on O2, N2O and Isoflurane. blood pressure about 130/80 mm hg. Intraoperatively Blood pressure was maintained around 130 - 140 systolic BP. During laparoscopy, little fluctuation in HR and BP was managed well, extubated with out any problems.

The main concerns of this surgery were to avoid intra operative arrhythmia and atrioventricular block and ST segment elevation. Utmost care was taken for fluid management and pain, patient was on post-operative observation to see for any signs of dyspnea and ST elevation.

Conclusion: As the patient was posted for acute appendicitis with known history of myocarditis. Early intensive hemodynamic management and support was extremely useful to these patients. In view of haemodynamic collapse due to arrythmias, the anaesthetic management was planned successfully without any consequences.

Author's Affiliation:

[1] Junior Resident, Department of Anaesthesiology, Sri Devaraj Urs Medical College, SDUAHER, Kolar, Karnataka, India.

[2] Professor, Department of Anaesthesiology, Sri Devaraj Urs Medical College, SDUAHER, Kolar, Karnataka, India.

Corresponding Author:

Ravi Madhusudhana, Professor, Department of Anaesthesiology, Sri Devaraj Urs Medical College, SDUAHER, Kolar, Karnataka, India.

E-mail: ravijaggu@gmail.com

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KEYWORDS

• Anaesthetic management • Myocarditis • Acute appendicitis

KEY MESSAGES

In managing anaesthesia for a patient with myocarditis, prioritize careful cardiovascular monitoring and adjust anaesthetic techniques to accommodate the heightened risks of both the heart condition and the possibility of arrythmias. Comprehensive preoperative assessment and multidisciplinary teamwork are crucial to ensure optimal outcomes while managing potential complications.

INTRODUCTION

Myocarditis is defined as inflammatory changes of the myocardium and may be associated with myocyte necrosis, myocarditis is uncommon disease usually difficult to diagnose. It may be entirely asymptomatic, the aetiologies of myocarditis could be infection, toxicosis, immunologic reaction or idiopathic causes.[1]

According to definition, complicated acute myocarditis is characterised by presentation with one or more of the following features: left ventricular dysfunction (LVEF <50% on first echocardiogram), ventricular arrhythmia, heart block, low cardiac output syndrome and cardiogenic shock.

Patients with myocarditis are regarded to be of high risk for perioperative complications, necessitating diligent anaesthetic management, while prognosis of uncomplicated acute myocarditis is perceived as benign. We report a patient with acute appendicitis who underwent appendectomy under general anaesthesia and had diagnosed asymptomatic myocarditis following cardiomyopathy.

CASE REPORT

A 26-year-old male diagnosed with acute appendicitis. He had known history of cardiomyopathy and sub clinical hypothyroidism. His ultrasound abdomen and pelvis showed non compressible blind ending non peristaltic tubular structure 7.5 mm with surrounding increased mesentric echogenicity.

Patient had history of palpitations and syncope since 2 years, consulted cardiologist, diagnosed as cardiomyopathy with suspected myocarditis. He had preceding viral infection 2weeks ago. He was athletic and with satisfactory daily activity. Pre-operative evaluation, ECG showed sinus bradycardia, second degree atrioventricular block and T wave abnormality; 2D ECHO showed preserved ejection fraction 55% with LV dilation and normal chamber dimensions and normal pulmonary artery pressure.

The EF had progressed gradually from 25% to 55 over 6 months.

Patient was premedicated with Inj Midazolam 1mg,induced with graded doses of propofol, intubated with help of Suxamethonium and maintained on O2, N2O and Isoflurane. Blood pressure about 130/80 to 140/80 mm hg and heart rate of 70-80. During the operation after pneumoperitoneum little fluctuation in HR and BP, blood pressure starts increasing and heart rate was on lower side 45 - 55 bpm. This was treated with deepening the plain with isoflurane and supplemented with propofol and it settled down.

The main concerns of this surgery were to avoid intra operative arrhythmia and atrioventricular block and ST segment elevation. Utmost care was taken for fluid and pain management, pre-operative cardiac evaluation and patient was on post-operative observation to see for any signs of dyspnoea and ST elevation.

DISCUSSION

Myocarditis is an inflammatory process of myocardium. The incidence of myocarditis is uncertain because it is difficult to diagnose as some cases are asymptomatic while others are severe with morbidity and mortality.[2]

The clinical manifestations were preceding viral syndrome, chest discomfort, dyspnoea on exertion, congestive heart failure and

arrhythmias.

Because acute myocarditis could be serious due to sudden onset of hemodynamic decompensation, ST changes, arrhythmia, early recognition and intervention are valuable.[1] Non-specific findings such as fever, fatigue, myalgia, chest pain, dyspnoea on exertion may be present.

In one of the cohort study they found patients who were hospitalized with uncomplicated acute myocarditis with no known prior heart disease were associated with substantial risk for cardiovascular events which indicated for a more efficient therapeutic management.[3]

Our case had symptoms and signs of myocarditis such as Palpitations, syncopal attacks, Tachypnoea, mild ST elevation. He was having viral infection preceding 4 weeks, Fever and leukocytosis with predominant neutrophilia implicated acute appendicitis. Bradycardia, mild T inversions, second degree AV block was noted in pre-operative anaesthetic evaluation. Patient had known cardiomyopathy having suspected myocarditis.

Paradoxical bradycardia or deterioration of AV conduction following low-dose atropine were reported in one of the case reports. We did not use glycopyrrolate or atropine as premedication in our case.[4]

Myocardial disease in children and young adults can have Mortality and myocarditis was determined as the cause of 83.3% of sudden deaths. Myocarditis is a rare disease that can be lethal and difficult to diagnose.[5]

In our patient, it was diagnosed early as cardiomyopathy, progressed to myocarditis and was on treatment and some amount of remodelling of cardia had happened. The challenge was laparoscopy and sympathetic stimulation which may induce arrythmias' case management was well planned and the out come was good.

CONCLUSION

As the patient was posted for acute appendicitis with known history of myocarditis. Early intensive hemodynamic management and support was extremely useful to these patients. In view of haemodynamic collapse due to arrythmias, the anaesthetic management was planned successfully without any consequences

Conflict of Interest: None

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