Case Report

# Anesthetic management of a patient with incidental left atrial myxoma for proximal femur nailing: A case report


**ABSTRACT**

Cardiac myxomas are rare tumors with risks of cardiac outflow obstruction and embolic events. Surgical excision of the tumor at the earliest is the definitive treatment. We report the successful anesthetic management of a 65-year-old female patient with incidental left atrial myxoma for right proximal femur nailing. The patient was asymptomatic with no significant cardiac history. Since fracture reduction cannot be deferred for a prolonged period, the case was taken up under general anesthesia with invasive blood pressure monitoring.



**Key words:** Atrial myxoma, cardiac tumors, tumor embolization


## Introduction

Myxomas are the most common benign cardiac tumors in adults, accounting for 83% of all primary cardiac tumors. They are predominantly seen in females aged 30–60 years.[1] Myxomas may be sporadic in origin or inherited as an autosomal dominant disorder called Carney's complex. Seventy-five percent of cardiac myxomas originate from the left atrium.[2] Clinical features may manifest as outflow obstruction, embolization, and constitutional symptoms (fever, weight loss, and malaise).[3] Patients with myxoma are prone to sudden cardiac arrest due to its potential for embolization and outflow obstruction. Surgical excision is the definitive treatment.

## Case Report

A 65-year-old female patient who is a known diabetic presented with an alleged history of self-falls at home and sustained injury to the right hip. On evaluation, she was diagnosed with subtrochanteric fracture of the right femur and was posted for right proximal femur nailing. On general physical examination, she was moderately built and nourished with a pulse rate of 112 beats per minute, regular in rhythm and blood pressure of 160/96 mmHg in the supine position. During preanesthetic evaluation, an incidental diagnosis of left atrial myxoma measuring 1.36 cm × 1.2 cm was made on echocardiogram. The myxoma was found to be arising from the interatrial septum, pushing forward the mitral valve with no obstruction of the mitral valve. The patient was otherwise asymptomatic with no significant previous history. The cardiovascular and respiratory systems were normal. All laboratory investigations were within normal limits. After adequate nil per oral status, the patient was shifted to the operating theatre. Point of care ultrasonography was performed on the operating room table using a Sonosite M-Turbo machine and the myxoma was confirmed [Figure 1


**Video available on :** https://journals.lww.com/sjan

| Access this article online | |
|---|---|
| **Website:** https://journals.lww.com/sjan | Quick Response Code |
| **DOI:** 10.4103/sja.sja_944_23 | |





**How to cite this article:** Anne N, Anandaswamy TC, Govindswamy S, Ravichandran G. Anesthetic management of a patient with incidental left atrial myxoma for proximal femur nailing: A case report. Saudi J Anaesth 2024;18:302-4.



**Namita Anne, Tejesh C Anandaswamy, Suresh Govindswamy, Gowshik Ravichandran[1]**

Department of Anaesthesiology, MS Ramaiah Medical College, Bengaluru, Karnataka, [1]SRM Medical College, Trichy, Tamil Nadu, India

**Address for correspondence:** Dr. Namita Anne, Department of Anaesthesiology, MS Ramaiah Medical College, Bangalore, Karnataka, India. E-mail: namita269@gmail.com



**Submitted:** 08-Dec-2023, **Accepted:** 10-Dec-2023, **Published:** 14-Mar-2024

and Video 1]. All standard anaesthesiology monitors were connected and baseline vitals were noted. After local infiltration with Inj. Lignocaine 2%, right radial artery was cannulated for invasive blood pressure monitoring. The patient was preoxygenated with 100% oxygen for 3 min, premedicated with Inj. Fentanyl 2 mcg/kg, induced with Inj. Etomidate 0.3 mg/kg and relaxed with Inj. Vecuronium 0.1 mg/kg. Airway was secured with a 7.5 mm cuffed endotracheal tube. The patient was ventilated with controlled mode of ventilation. Depth of anesthesia was maintained with oxygen, air, isoflurane, and intermittent boluses of vecuronium. Intraoperative period was uneventful. Under ultrasound guidance, the right femoral nerve block was given with a mixture of 5 mL of 2% Lignocaine and 15 mL of 0.25% Bupivacaine for postoperative analgesia before extubation. After adequate reversal with Neostigmine 0.05 mg/kg and Glycopyrrolate 0.01 mg/kg, the patient was extubated uneventfully. She was shifted to the postoperative care unit for observation and subsequently shifted to the ward.

## Discussion

Primary cardiac tumors are a rare occurrence with an annual incidence of 0.5/million. Seventy-five percent of cardiac myxomas are located in the left atrium, 23% in the right atrium, and 2% in the ventricles. Mitral annulus and the fossa ovalis border of the interatrial septum are the most common locations of cardiac myxoma.[3] The surface of the tumor can be smooth, villous, or friable. Villous and friable myxomas are prone to cause embolic events, whereas smooth myxomas are associated with obstructive symptoms.[4]

Ten percent of cardiac myxomas are inherited as Carney's complex, which is an autosomal dominant disorder. Inherited myxomas are due to mutations in the PRKAR1A gene. Majority of the myxomas are sporadic in nature.[4]

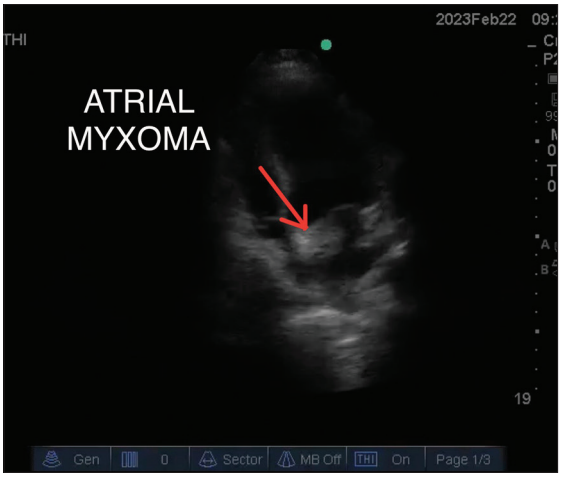


**Figure 1: Apical four-chamber view of the heart showing atrial myxoma**

The shape, size, location, and activity of the tumors determine the clinical presentation of myxomas. Variability in intracardiac hemodynamics and clinical symptoms are due to the movement of the myxoma within the cardiac chambers.[5] Goodwin's triad is the classic triad of myxoma, which consists of embolism, intracardiac flow obstruction, and constitutional symptoms.[6]

Left atrial myxomas mimic clinical features associated with mitral stenosis, left-sided heart failure, and secondary pulmonary hypertension. They present with dyspnea with exertion, orthopnea, and paroxysmal nocturnal dyspnea. A characteristic tumor plop can be heard during the early diastole phase on auscultation.[7] Patient with right-sided atrial myxomas present with clinical features similar to those of tricuspid stenosis and right heart failure. A diastolic murmur similar to tumor plop may be heard on auscultation. Right-sided myxoma is associated with episodes of pulmonary embolism, pulmonary hypertension, and Budd-chiari syndrome.[6] Constitutional symptoms such as fever, malaise, anorexia, arthralgia, and weight loss are due to the release of acute phase reactants such as cytokine IL-6.[3]

The anesthetic management becomes challenging when the tumor causes valvular outflow obstruction and intraoperative embolism. The main anesthetic goals in case of outflow obstruction include maintaining adequate preload and afterload, cardiac perfusion, and sinus rhythm. Pulmonary artery pressure should be maintained within normal limits by avoiding hypoxia, hypercarbia, acidosis, and lung hyperexpansion. The anesthetic concerns mimic that of severe mitral stenosis. Cardiac arrest is a deadly complication that can occur during the perioperative course due to the entrapment of the tumor in the mitral valve. Prolapse of the myxoma into the valve orifice can cause postural hypotension.[8] Yemul-Golhar *et al*.[9] have reported a case of right atrial myxoma for emergency decompressive laminectomy in which the patient had experienced postural hypotension on proning patient. The patient had to be started on ionotropic support to titrate the blood pressure. However, we did not experience any unstable hemodynamics throughout our case. Continuous monitoring with transthoracic or transoesophageal echocardiography is advisable throughout the procedure if the facilities are available.

In the present study, patient had a subtrochanteric fracture. As this fracture required early intervention, the patient was posted for proximal femur nailing. We preferred general anesthesia with invasive monitoring to avoid hemodynamic compromise. Ideally, the procedure should be carried out in a cardiac theatre with cardiopulmonary bypass on standby

in case of dreaded complications. However, it could not be done in this case due to the financial constraints of the patient. The patient was hemodynamically stable throughout the procedure. Ultrasound-guided femoral nerve block was given to avoid deleterious effects of pain such as tachycardia and hypertension.

Patients with cardiac myxoma are prone to embolic events perioperatively. A multidisciplinary team including an anesthesiologist, cardiothoracic surgeon, and cardiologist is mandatory for the proper management of such cases and for better perioperative outcome.

### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understands that her name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

### Financial support and sponsorship

Nil.

### Conflicts of interest

There are no conflicts of interest.

## References

1. Vivien HL, Heidi MC, Robert D, Brown Jr. Central nervous system manifestation of cardiac myxoma. Arch Neurol 2007;64:1115-20.
2. Reynen K. Cardiac myxomas. N Engl J Med 1995;333:1610-7.
3. Karabinis A, Samanidis G, Khoury M, Starvridis G, Perreas K. Clinical presentation and treatment of cardiac myxoma in 153 patients. Medicine 2018;97:12397.
4. Pinede L, Duhaut P, Loire R. Clinical presentation of left atrial cardiac myxoma. A series of 112 consecutive cases. Medicine 2001;80:159-72.
5. Haitao J, Yanhong X, Shuangyin Z, Yingbin W. Hemodynamic management of a patient with a huge right atrium myxoma during thoracic vertebral surgery. Medicine 2018;97:39.
6. Resham K, Merlin SR. Anaesthetic management of patient with incidental left atrial myxoma posted for wound debridement in hand. Indian J Anaesth 2023;67:78-9.
7. Kewal CJ, Savitri S, Vinay KB, Anita S, Subhash CM, Harbans SW. Cardiac myxomas: Clinical and echocardiographic profile. Int J Cardiol 1998;63:251-9.
8. Pushpavathi T, Madhuri K, Sheetal H, Ganapati H. Anesthetic management of a patient with asymptomatic atrial myxoma for hernia repair. Anaesth Pain Intensive Care 2016;20:246-8.
9. Yemul-Golhar S, Shinde S, Kelkar K. Anesthetic management of a rare variety of cardiac myxoma for emergency decompression laminectomy. South Afr J Anaesth Analg 2013;19:71-2.