# Management of Right atrial myxoma – Anesthesia perspective

**Nikhil Mudgalkar[1], Kasturi Ravinder Reddy[2] , K V Sampath Kumar[3], Velimala Swaroopa[4]**

**[1]Professor, Department of Anesthesia, [2]Professor, Department of General Medicine and Consultant Cardiologist, [3,4]Senior Resident, Department of Anaesthesia Prathima Institute of Medical Sciences, Nagnur road , Karimnagar, Telangana, India.**

**Address for correspondence: Dr K V Sampath Kumar, Senior Resident, Department of Anesthesia, Prathima Institute of Medical Sciences,Nagnur road , Karimnagar, Telangana, India.**

**Email: kas.sampa@gmail.com**

**ABSTRACT**

Patient with right atrial myxomapose a particular challenge to Anesthesiologist. We present a case of 60 year old female presenting with giant right atrial myxoma posted for excision. The tumor was removed successfully in controlled condition under cardiopulmonary bypass. Knowledge of pathophysiology, careful optimization of patient and readiness for sudden cardiac arrest in view of blockade of right ventricular inlet are major issues in intraoperative period. Rarity of disease pose particular challenge in view of lack of expertise for even experience anesthesiologist careful planning and vigilance are key to success.

**Keywords:** Anesthesia, invasive monitoring, cardiopulmonary bypass, right atrial myxoma.

**INTRODUCTION**

Right atrial myxoma is a rare cardiac tumor with overall incidence of 10% among all cardiac tumors which itself is a rare entity.[1,2] Anesthesia management of this particular tumor can be challenging in view of varied presentations i.e. cardiac arrythmias,right heart failures, tricuspid stenosis etc. Anesthesiologists are involved in these types of cases for primary removal of tumor under cardiopulmonary bypass or as a co-morbid condition for noncardiac surgery.

**CASE REPORT**

A 60 year old lady presented in outpatient department with pyrexia of unknown origin. She complained of occasional palpitations and NYHA class IIdyspnoea. She was a known case of hypothyroidism with TSH levels of 7mu/liter and normal T3 and T4 levels with regular consumption of thyroxine tablet 100 microgram since last 10 years. Her baseline investigations were normal. In view of occasional palpitations and NYHA class 2 dyspnoea, 2D echo was advised by cardiologist which showed giant right atrial myxoma with dimensions of 6×4×4 centimeter in size attached to inter atrial septum. There was right atrial and right ventricular hypertrophy with mild tricuspid regurgitation, ejection fraction was good. Patient was posted for removal of right atrial myxomaunder cardiopulmonary bypass. Preanesthesia evaluation was done and fitness was given as ASA 3 grade.

Patient was taken on table for surgery,5 lead electrocardiogram was applied to back. External defibrillator paddles were attached to back. 16 gauge peripheral cannula was placed in left upper extremity, and20 gauge left radial cannula was placed on left radial artery under local anesthesia. Invasive blood pressure monitoring was started which showed pressure of around 140/70 mm Hg. Arterial blood gases and activated clotting time was done as a baseline measure, left femoral artery was cannulated under local anesthesia and transdusedon monitor. Under local anesthesia right internal jugular vein was cannulated and fixed at 10 cm distance from superior vena cava – right atrial junction. Patient was induced with injection midazolam 5mg , injection fentanyl 500mcg and injection vecuronium 10mg. Patient was intubated with portex cuffed endotracheal tube of 7.5mmand fixed at 20 mark. Ventilation was started with 2 litres oxygen, 350 ml tidal volume and 14/min respiratory rate. Transesophageal echo probe was put after induction.

After sternotomy, heparin 150mg was given through central line, activated clotting time was maintained above 500. After cannulation, cardiopulmonary bypass was instituted and right atrium is opened.Complete excision of tumor was possible with a little rim of atrial septum. Patch closure of atrial septal defect was done, right atrium closed .After deaeration with head low position, clamp was removed. Cardiac activity resumed within 5 minutes with moderate doses of ionotropes(adrenaline and noradrenaline).Heparin was neutralized with protamine and hemostasis was achieved. Chest was closed in layers with 2 drains in mediastinum.Patient was stable in postoperative care unit, got awakened within 2 hours and extubated uneventfully. She was discharged with low dose aspirin to be followed up regularly up to 3 months.

**Figure 1: 2D Echo showing Tumour mass**

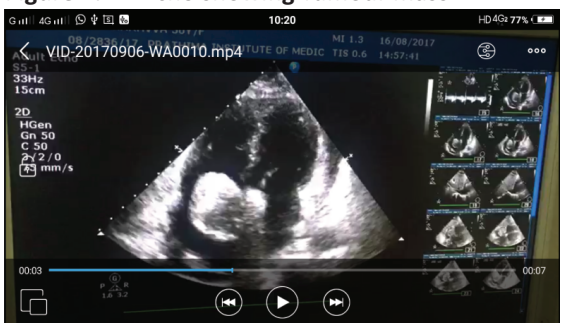
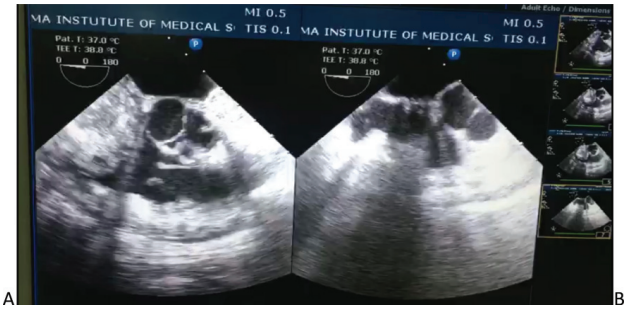


**Figure 2 : Mid esophageal aortic short axis view showing**

Image A- Pre bypass period myxoma

Image B – Post bypass myxoma removed




A B

## DISCUSSION

Cardiac myxomas are rare tumors. Anesthesia management can be challenging in view of dynamic nature of the tumor, behaveas mitral stenosis in left atrial or tricuspid stenosis in right atrial sites, chances of embolization and possibility of recurrence. They are most common intracavitory tumors with incidence of 0.5 per million population, with left atrium being the most common site, followed by right atrium and ¾th cases are seen in females. " Goodwins triad" describes myxoma very well with embolic symptoms, obstruction to blood flow, and constitutional symptoms.[3]

Anesthesia management of this particular case can be challenging. Diagnosis is not a challenge for anesthesiologist as the patient gets diagnosed and fully evaluated. Preoperative management focuses on proper preanaesthesia evaluation, diagnosingco-morbidconditions, optimization of co-morbidities and preparingthe case for surgery.

Intraoperative course can be fluctuating with very straight forward surgery to sudden cardiac arrest. [4] Needing emergency bypass and prepare for all possibilities. Extreme caution should be taken while cannulating internal jugular vein in right sided tumors and it is better to fix the catheter at superior vena cava – right atrial junction. Volume status of the patient should be optimized as dehydration can lead to complete obstruction of chamber and cardiac arrest. Vasodilators should be carefully used with the similar fear. Intraoperative transesophageal echo comes very handy in these types of cases to locate exact size, shape,attachments,concurrent cardiac problems and to assess volume status of the patient.

Once the patient is on bypass, anesthesia proceeds uneventfully with quick recovery and early extubation .There is need to keep vigilance on neurologic status of the patient in left sided myxomasas chances of embolization may lead to neurological dysfunction.

## CONCLUSION

Giant right atrial myxoma can pose various anaesthetic challenges as the disease is very rare and hence anaesthesiologist may have less experience in managing this type of case. Proper preanaesthesia management, meticulous intraoperative planning, and closed vigilance in intraoperative period are key for successful management.

## REFERENCES

1. Klaus Reynen. Cardiac myxomas. The New England Journal of Medicine.1995; 333(24): 1610-1617.
2. R Rajani, N Sarangmath, B Mishra. Massive right atrial myxoma. International Journal of Cardiology 128(1): 121-122.
3. Goodwin JF. Diagnosis of Left atrial myxoma.Lancet 1963; 1:464.
4. Eugene.H.Mcloskey, Jayant B Mehta, K Krishnan, Thomas M Roy. Right atrial myxoma with extracardiac manifestations.Chest Aug 2000.Vol 118; No 2:547-549.

**How to cite this article :** Mudgalkar N, Kasturi R R, Sampath K V, Swaroopa V . Management of Right atrial myxoma – Anesthesia perspective.Perspectives in Medical Research 2018;6(2):72-73.

**Sources of Support:** Nil,Conflict of interest:None declared