A Case Report Of Left Atrial Myxoma Presenting As Embolic Stroke

Prachi Sharma[1], Fathimath Hasna[1], Ajmal Shajahan[1], Roshan P[1], Mohammed Safwan[1], and Yusuf Kumble[1]

[1]Indiana Hospital and Heart Institute Ltd

September 14, 2022

Abstract

Atrial myxoma is a benign cardiac tumor found most commonly in the left atrium. They mostly present with dyspnea, fatigue or palpitations. Previously undiagnosed left atrial myxoma presenting as stroke is extremely rare. Authors describe the case of a middle aged man with LA myxoma presenting with acute embolic stroke.

A Case Report Of Left Atrial Myxoma Presenting As Embolic Stroke

Abstract

Atrial myxoma is a benign cardiac tumor found most commonly in the left atrium in 80% of the cases. Almost 1 in 10 myxomas are familial and are most common in women. Cardiac myxoma mostly present with dyspnea, fatigue or palpitations. Previously undiagnosed left atrial myxoma (LA) presenting as stroke is extremely rare. Authors describe the case of a middle aged man with LA myxoma presenting with acute ischemic embolic stroke which was surgically excised. This case report emphasizes on the rare presentation as embolic stroke and the role of cardiac imaging in patients presenting with ischemic stroke. Early and co-ordinated team work among the neurologist, cardiologist and cardiothoracic surgeon help establish the etiology and provide appropriate treatment.

Keywords: Left atrial myxoma, Embolic stroke, 2D echocardiogram, cardiac tumor.

Introduction

Primary cardiac tumors are rare with a reported incidence of 1,380/100 million individuals.[1] Among primary cardiac tumors, approximately 75% are benign.[2] Of the benign tumors, nearly half are cardiac myxomas, which predominantly arise from or near the interatrial septum and extend into the left atrium.[3] It primarily affects the female population with a female to male ratio of 2:1.[4] The etiology is unknown and the only evidence pertaining is its mesenchymal origin.

It is often difficult to diagnose myxoma of the heart due to less symptoms or masked symptoms and hence should be considered as a differential diagnosis for unexplained syncope and dyspnea.[3] The progression of the tumor can rarely lead to embolic stroke.[5] The current guidelines of stroke management do not elaborate on cardio-embolic stroke with myxoma and only a few cases have been reported till date.[6]

Presentation of case

We describe the case of a 48years old south Asian gentleman presenting to the emergency department with complaints of sudden onset of slurring of speech, episodes of vomiting and complete motor aphasia for last ten hours which started improving slowly over the last one hour. The patient had similar complaints 5 months

back which resolved completely in a few hours, so the patient did not seek any medical advice. He had no history of hypertension or diabetes mellitus. On physical examination, the patient was afebrile. His blood pressure was 106/74mmHg with a heart rate of 104 beats/minute and all distal pulses were felt. On cardiac examination, heart rhythm was regular and a faint, short mid-diastolic murmur was heard. Neurologically, there was motor aphasia with no peripheral neurological deficit. Computed tomography (CT) scan of the brain showed multiple infarcts in left parietal lobe, right occipital lobe, right body of caudate nucleus, left internal capsule, left thalamus and bilateral cerebellar hemispheres. Magnetic resonance imaging (MRI) of the brain depicted multiple foci of high signal on diffusion weighted imaging (DWI) in right corona radiata, left thalamus, and bilateral cerebellar hemispheres making a diagnosis of infarcts (figure 1). These multiple bilateral infarcts were suggestive of cardio-embolic origin. However, the patient had no past relevant cardiac history.

Cardiac workup was done immediately. Electrocardiogram of the heart showed normal sinus rhythm with left atrial enlargement. Two dimensional echocardiogram was performed which revealed a 39×20 mm large homogeneous mass in the left atrium attached to the interatrial septum which was mobile and protruding into the left ventricle (figure 2). The appearance was suggestive of a left atrial myxoma. In view of cardio-embolic stroke, he underwent surgical excision of the mass (figure 3). Biopsy report confirmed it to be a myxoma. He consequently recovered his normal speech and was discharged in a stable condition.

Discussion

Atrial myxoma usually present with dyspnea, palpitations or fatigue and are more common in women. Atrial myxoma presenting as stroke is a rare condition. However, it can potentially lead to varied neurological complications in 20-35 % of the patients.[5] This case report emphasizes on the rare neurological manifestation of left atrial myxoma first presenting as an embolic stroke in a middle aged male patient, with no other cardiovascular symptoms. Usually, it obstructs the mitral inflow and causes fatigue and dyspnea due to reduced forward flow and elevated pulmonary venous pressure respectively. There may be enlargement of the left atrium, atrial arrhythmias and palpitations. Being a highly mobile and friable structure, its fragments may get dislodged and embolise to the cerebral circulation causing stroke. Bilateral multiple infarcts as found in our case usually point towards cardio embolic etiology. Although cardio-embolic stroke is most commonly caused by left atrial thrombus due to valvular or non-valvular atrial fibrillation. While, globally non-valvular atrial fibrillation is the most common cause of cardio-embolic stroke, in developing countries, rheumatic heart diseases (RHD) with severe mitral stenosis still remains a very common cause. Atrial myxoma are quite a rare cause for stroke, especially as the presenting symptom, like in our case.[7]

This case report serves as a reminder, that can contribute to raise awareness and emphasize on the importance of quickly ruling out cardioembolic causes of ischemic stroke that are unrelated to hypercoagulability.[5] It reinforces the need for need for a two dimensional echocardiography as a part of basic cardiac workup in patients presenting with stroke. In our patient, two-dimensional echocardiography was performed which showed a 39×20 mm large homogeneous mobile left atrial mass attached to the interatrial septum. Multiple imaging characteristics—large size, attachment to the interatrial septum, mobility, and prolapse across atrio-ventricular valve—made myxoma the most likely diagnosis.

The diagnosis of an atrial myxoma warrants its resection and it should be done immediately due to anticipated risk of embolization, arrhythmias and sudden cardiac mortality occurring in about 10 % of patients waiting for surgery.[8] When it is resected completely with no residual tumour, the chances of recurrence is rare with good long term outcomes.[9] Our patient had already suffered embolism and in order to prevent further episodes he was immediately taken up for surgical excision of the mass. Apart from imaging, histopathological findings are essential to confirm the diagnosis and provide prognostic information.[9]

Conclusion

Early evaluation of myxoma helps the clinicians to prevent further complications and decrease associated morbidity and mortality. This case report emphasizes on the rare event of left atrial myxoma presenting as an embolic stroke in a middle aged male. Embolism warrants early resection of the tumor.

Consent of Patient

Consent for the case report and images from the patient.

Conflict of interest and funding

Nil

References

1.Tyebally S, Chen D, Bhattacharyya S, Mughrabi A, Hussain Z, Manisty C, Westwood M, Ghosh AK, Guha A. Cardiac tumors: JACC CardioOncology state-of-the-art review. Cardio Oncology. 2020 Jun 1;2(2):293-311.

2.Ren DY, Fuller ND, Gilbert SA, Zhang Y. Cardiac tumors: clinical perspective and therapeutic considerations. Current Drug Targets. 2017 Dec 1;18(15):1805-9.

3.Colin GC, Gerber BL, Amzulescu M, Bogaert J. Cardiac myxoma: a contemporary multimodality imaging review. The international journal of cardiovascular imaging. 2018 Nov;34(11):1789-808.

4.O'Rourke F, Dean N, Mouradian MS, Akhtar N, Shuaib A. Atrial myxoma as a cause of stroke: case report and discussion. Cmaj. 2003 Nov 11;169(10):1049-51.

5.Iyer P, Aung MM, Awan MU, Kososky C, Barn K. A case of large atrial myxoma presenting as an acute stroke. Journal of Community Hospital Internal Medicine Perspectives. 2016 Jan 1;6(1):29604.

6.Abe M, Kohama A, Takeda T, Ishikawa A, Yamada Y, Kawase Y, Ishii Y, Bessho R, Oaki Y, Haruta S, Ohashi T. Effective intravenous thrombolytic therapy in a patient with cerebral infarction associated with left atrial myxoma. Internal Medicine. 2011;50(20):2401-5.

7. Leary MC, Caplan LR. Cardioembolic stroke: An update on etiology, diagnosis and management. Annals of Indian Academy of Neurology. 2008 Jan;11(Suppl 1):S52.

8.Kesav P, John S, Joshi P, Gaba WH, Hussain SI. Cardiac myxoma embolization causing ischemic stroke and multiple partially thrombosed cerebral aneurysms. Stroke. 2021 Jan;52(1):e10-4.

9.Laksono S, Surya SP, Manuputty F, Lasanudin HF, Prawara AS. Case reports of left atrial myxoma in elderly and children. Sains Medika. 2021 Jun 1;12(1):40-4.

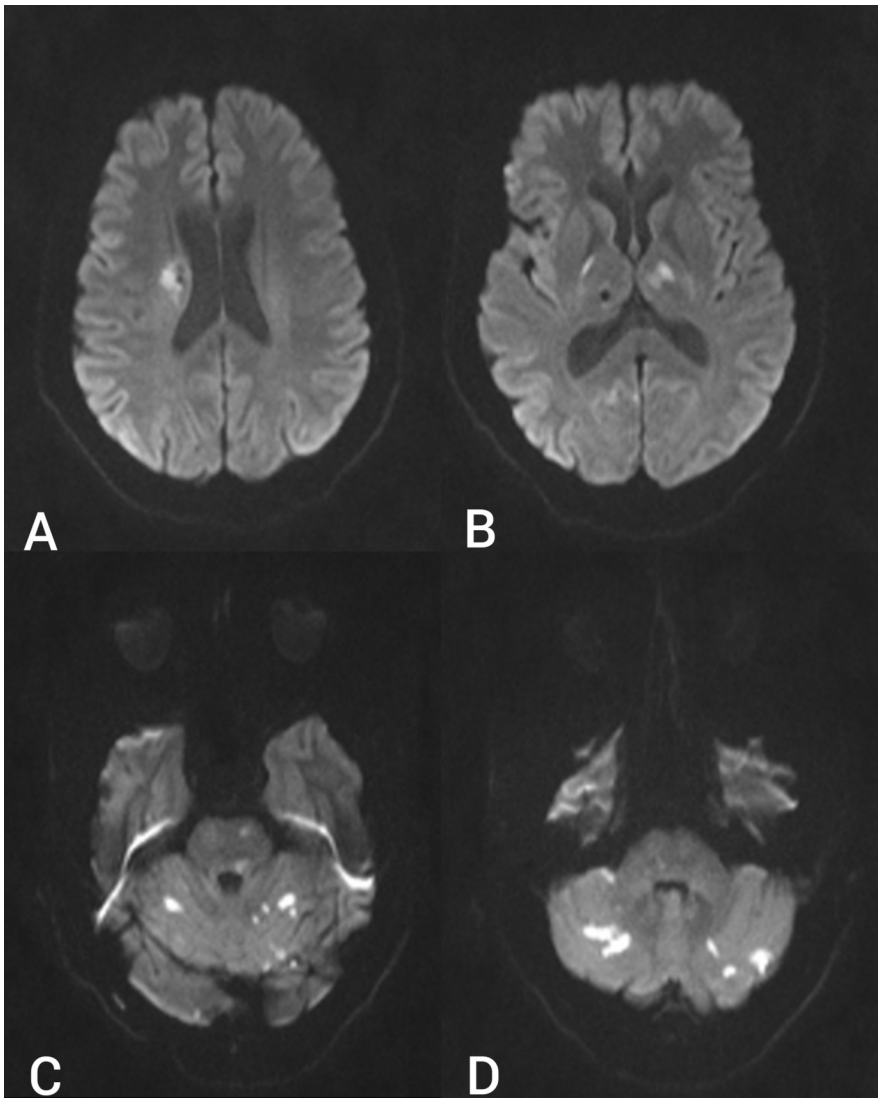

Figure 1

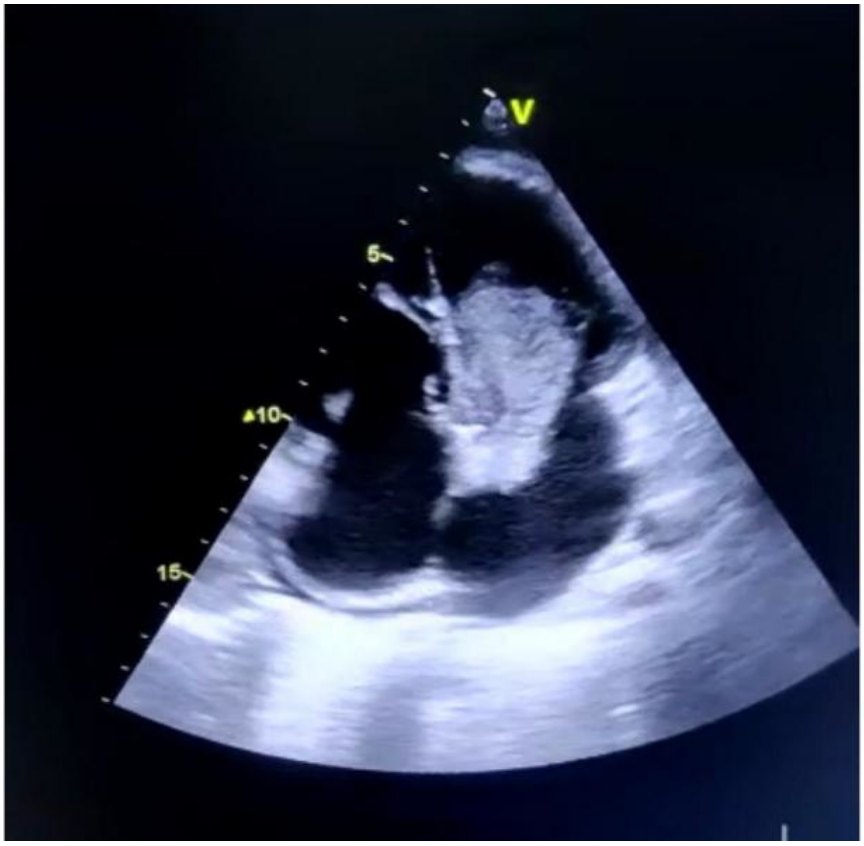

Figure 2

Figure 3

Figure legends:

Figure 1. Multiple foci of high signal on DWI seen in

A) Right Corona radiata B) Left thalamus C) and D) Bilateral cerebellar hemisphere

Figure 2. 2D echocardiogram apical 4-chamber view showing 39×20mm left atrial myxoma protruding into the left ventricle across the mitral valve.

Figure 3. The excised myxoma.