Case Report

# Left Ventricular Chordae Tendinae Myxoma Causing Stroke: A Rare Finding

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**ABSTRACT**

A 52-year-old woman presented with dysarthria and right-sided weakness in her upper and lower extremities prompting thrombolytic therapy with mild resolution of symptoms. Further work-up revealed (the source) a left ventricular myxoma on the chordae tendinae of the posterior medial papillary muscle, confirmed with transesophageal echocardiography and pathology. Herein, we present a rare case of embolic stroke from a myxoma originating on the chordae tendinae. To the best of our knowledge, the literature on the location and presentation of this tumor as seen in our patient is sparse in contemporary findings.

**Keywords:** Echocardiography, myxoma, stroke, tumor

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## HISTORY

A 52 year-old woman with a past medical history of controlled hypertension presented to the emergency department with right-sided weakness in her upper and lower extremities, facial weakness, and dysarthria after removing her jacket. Due to her presentation, history was taken from family members. There was no reported history of coagulopathy, previous cardiac disorder, or familial history of stroke. Physical exam findings were consistent with the reported history with notable right-sided facial droop. Vital signs demonstrated a blood pressure of 131/85, heart rate of 91, oxygen saturation of 97%, and a respiratory rate of 17. Code stroke was initiated, with non-contrast computed tomographic head images demonstrating ischemic findings. EKG, complete blood count, troponins, coagulation panel, and urinalysis were all within normal limits and findings. After clearance from neurology service, tissue plasminogen activator was administered and followed with computed tomography angiography of head and neck, with both results demonstrating normal findings. Speech mildly improved after administration. Admission for further workup and supportive care ensued. Transthoracic echocardiography identified a smooth pedunculated round mass on the mitral valve chordae tendinae consistent with a cardiac myxoma with only mild mitral regurgitation and preserved systolic function. It was presumed that emboli from the myxoma lead to stroke symptoms. She was then scheduled for removal of this left ventricular myxoma via open sternotomy and cardiopulmonary bypass after coordination with hematology for the recent use of thrombolytic therapy.

Perioperative transesophageal echocardiography confirmed the preliminary findings: A 1.5 cm × 1.5 cm round, smooth pedunculated mass attached to the chordae tendinae of the posterior medial papillary muscle apparatus

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with a small stalk. Other findings included mild mitral regurgitation, with a slightly reduced ejection fraction at 50% [Figures 1-4 and Videos 1-4]. There was no evidence of left ventricular outflow obstruction demonstrated by color flow Doppler. Primary surgical resection of the myxoma from the chordae was performed without the need for mitral valve replacement, repair, or neochord. The post bypass echocardiographic assessment confirmed adequate resection of the lesion. Pathologic findings were consistent with cardiac myxoma. Her postoperative course was uneventful. The original neurologic deficits had slightly improved, and she was discharged several days later.

## DISCUSSION

Cardiac tumors occur with an estimated incidence rate of <0.33%, with primary cardiac tumors being much more rare between 0.0017% and 0.19%.[1,2] Of the cardiac tumors, 75% are considered benign with atrial myxomas comprising nearly 50% of the benign tumors.[3] Cardiac myxomas are derived from primitive endothelial cells or subendocardial cells or multipotential mesenchymal cells, with a predilection to occur in the left atria.[4]

Although cardiac myxomas are benign in nature, they are notoriously associated with embolic events, partial or complete obstruction of intracardiac blood flow and hemodynamic instability.[5] When arising from the left ventricle, embolization is more likely due to the increased pressure and mobility in the ventricle as demonstrated in our patient.[4] The mobility of the tumor is also dependent upon the extent of attachment as well as length of the stalk. Constitutional symptoms may manifest as fever, weight loss, arthralgias, and Raynaud's phenomenon and are seen in over 50% of patients with myxomatous lesions.[6] Cardiac myxomas occur in all age groups and in both sexes but are most commonly identified in women between the third and sixth decades of life.[7]

The diagnosis of cardiac tumors can be performed with several imaging modalities; echocardiography

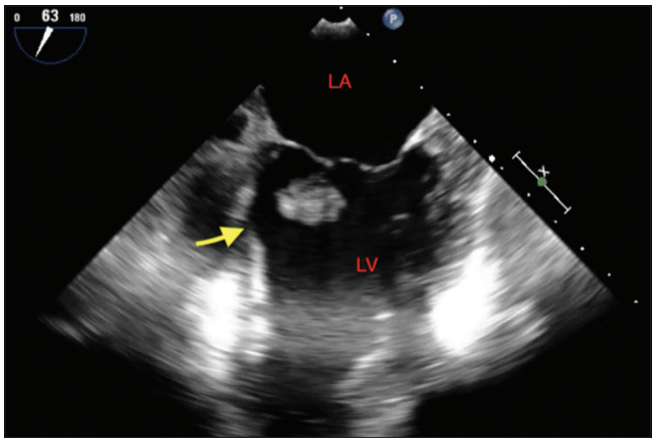


**Figure 1:** Transesophageal echocardiography. Midesophageal commissural view with myxoma (arrow). LA: Left Atrium, LV: Left Ventricle

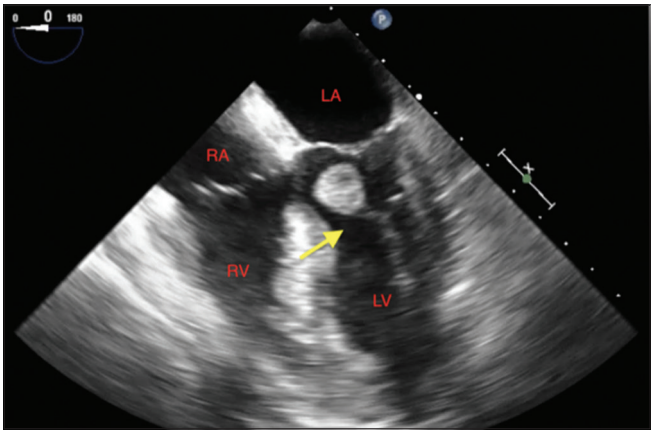


**Figure 2:** Transesophageal echocardiography. Midesophageal four-chamber view with myxoma (arrow). LA: Left Atrium, LV: Left Ventricle

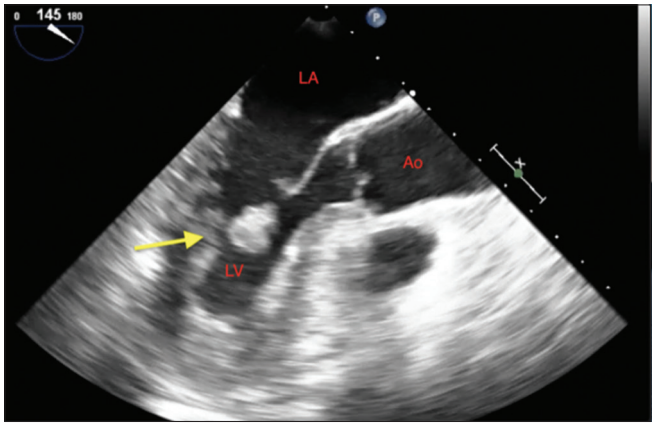


**Figure 3:** Transesophageal echocardiography. Midesophageal long axis view with myxoma (arrow). LA: Left Atrium, LV: Left Ventricle, Ao: Aorta

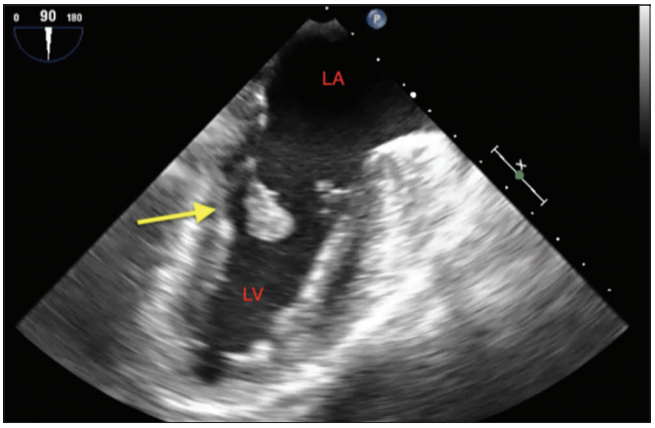


**Figure 4:** Transesophageal echocardiography. Midesophageal two-chamber view with myxoma (arrow). LA: Left Atrium, LV: Left Ventricle, Ao: Aorta

has the highest sensitivity and specificity for the diagnosis. Compared to transthoracic echocardiography, transesophageal echocardiography provides more detailed evaluation of morphologic features such as attachment sites as well as detection of small tumors.[8] The treatment of choice for cardiac myxomas is surgical removal, which should be done promptly if due to the increased risk of embolism and sudden cardiac death.[9] Although the majority of myxomas are sporadic, it is advised that the first-degree relatives of patients with documented myxomas undergo screening for occult myxomas.[10] There was no known reported familial history of myxoma in our patient.

The literature of left ventricular myxomas on the chordae tendinae has been seldom reported. We conclude that our presentation of the myxomatous lesion on the chordae with distal embolization causing stroke as seen in our patient has not been documented in contemporary literature.

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**Conflicts of interest**
There are no conflicts of interest.

## REFERENCES

1. Ren D, Fuller N, Gilbert S, Zhang Y. Curr Drug Targets 2017;18:1805-9.
2. Petris A, Alexandrescu D, Costache I. Cardiac tumors. Rev Med Chir Soc Med Nat Iasi 2014;118:289-92.
3. Francois J, Kupferstein E, Abdul R, Casillas J, Ibtida I, Salifu M, *et al.* Asymptomatic patient with an uncommonly located myxoma in the left ventricle attached to chordae tendinae. Am J Med Case Rep 2020;8:313-4.
4. Sadeghi N, Sadeghi S, Karimi A. Mitral valve recurrence of a left atrial myxoma. Eur J Cardiothorac Surg 2002;21:568-73.
5. Hill M, Cherry C, Maloney M, Midyette P. Surgical resection of atrial myxomas. AORN J 2010;92:393-406.
6. Lone RA, Ahanger AG, Singh S, Mehmood W, Shah S, Lone G, *et al.* Atrial myxoma: Trends in management. Int J Health Sci 2008;2:141-51.
7. Cianciulli TF, Cozzarin A, Soumoulou JB, Saccheri MC, Méndez RJ, Beck MA, *et al.* Twenty years of clinical experience with cardiac myxomas: Diagnosis, treatment, and follow up. J Cardiovasc Imaging 2019;27:37-47.
8. Grebenc ML, Rosado de Christenson ML, Burke AP, Green CE, Galvin JR. Primary cardiac and pericardial neoplasms: Radiologic-pathologic correlation. Radiographics 2000;20:1073-103.
9. Reynen K. Cardiac myxomas. N Engl J Med 1995;333:1610-7.
10. Percell RL Jr, Henning RJ, Siddique Patel M. Atrial myxoma: Case report and a review of the literature. Heart Dis 2003;5:224-30.