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

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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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
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.\[6\] 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 tendineae 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.

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