Atrial Myxoma: A Rare Cause of Ischemic Stroke

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Abstract
Atrial myxoma can present as stroke and should be considered as a differential diagnosis of stroke in young individuals. We present here a 42 years female who presented with sudden loss of consciousness. After extensive work up for young stroke, left atrial myxoma was detected and tumor was removed surgically and histopathological report was consistent with the atrial myxoma.

Introduction
Atrial myxomas are a rare cause of stroke, accounting for less than 1% of all ischemic strokes.1 Although rare, atrial myxoma should be considered in the differential diagnosis of any young adult who presents with ischemic stroke. Atrial myxoma is a common benign cardiac tumor. It presents generally in third to sixth decade. The embolic manifestation may be the initial presentation in many cases and if the tumor is not detected, may lead to recurrent ischemic events. Surgical removal of the myxoma is usually a permanent measure to prevent subsequent strokes.

Case
A 42-yr-old female presented to emergency with complaints of loss of consciousness preceded by dizziness for 2 hours. There was no history of fever, headache, seizure or trauma. On examination, patient was in coma responding to painful stimuli and moving all four limbs. Pulse 80 /min, regular, B.P: 150/90 mmHg. No signs of meningeal irritation, pupils were bilaterally equal and reacting to light. Doll’s eye movements were normally present. Deep tendon reflexes were normal, planters were bilaterally extensors. Investigations revealed normal biochemistry and hematology including liver function, renal function, lipid profile, electrolytes, complete blood counts and peripheral smear. ECG showed non specific ST-T wave changes. CT head showed infarct right basal ganglia. On second day of admission patient was conscious but in abulic state. Patient had bilateral vertical gaze palsy. MRI brain was done, which revealed right thalamic infarct (Figures 1 and 2). Keeping in view young age at presentation echocardiography was done which showed enlarged left atrium and an echogenic mass (Figure 3) attached to interatrial septum above the mitral valve which was projecting into the left ventricle during diastole (Figure 4). The size of this mass was 59 mm x 29 mm reducing the effective mitral valve area to 1.30 cm². Possibility of left atrial myxoma was considered. Patient was attached to cardiothoracic surgery for surgical treatment. She was operated and left atrial myxoma of size 3 x 3 x 2.5 cm was removed and histopathological examination showed features consistent with diagnosis of atrial myxoma.

Discussion
Causes of ischemic stroke in young adults differ from those in older adults. In older adults, most of the ischemic stroke are caused by cerebrovascular atherosclerosis or cardiogenic emboli related to atrial fibrillation, cardiomyopathy or valvular disease. In young adults, most ischemic strokes are caused by hypercogulability, nonatherosclerotic arteriopathies, illicit drugs use and emboli originating from structural cardiac abnormalities.2 Atrial myxoma, the most common benign cardiac tumor is found more commonly in young adults who present with ischemic stroke (1 in 250) than older patients with these problems (1 in 750).3 Primary tumors of heart are rare, with an incidence between 0.0017% to 0.19% in unselected patients at autopsy.4 Myxomas can present in all age group but, they are particularly frequent between third and six decades of life. Stroke is the initial presentation in 50% of cases of atrial myxoma and in 75% of the cases it is seen with left atrial myxoma. It is
more common in females than in males. Generally three types of symptoms seen in patients with a cardiac myxoma may be, (1) symptoms due to obstruction of cardiac outflow, (2) constitutional symptoms or (3) symptoms due to embolism. Neurologic events are common in patients with myxoma, occurs in approximately one third of these patients. The mechanism for embolic stroke in atrial myxoma is either fragment from tumor or from a thrombus on the surface of tumor. Ischemic stroke is the most frequent embolic manifestation of atrial myxoma and may be considered for differential diagnosis for causes of stroke, though it is a rare cause. The presence of embolic phenomena especially in young patients with neurological deficit should prompt early neuroimaging and echocardiography even in absence of ECG or auscultatory abnormalities. Auscultatory findings may be normal in 36% of the cases and a murmur suggestive of mitral stenosis has been reported in only 54%. Transesophageal echocardiography has been reported as having 100% sensitivity for Cardiac myxomas. Cardiac MRI can assist in delineating the tumor size, attachment and mobility. This may be helpful in surgical resection, because of the risk of further embolization; surgery cannot be deferred even in asymptomatic cases. Removal of atrial myxoma carries an operative mortality rate of 5% or less. Atrial myxomas can recur following surgical resection and overall risk of recurrence is approximately 12% for familial tumors and only 1% to 3% for sporadic tumors. Neurological sequelae after resection are rare but may occur without recurrence of the cardiac tumor.

Conclusion

Atrial myxoma is a common benign cardiac tumor which can present in different ways. Stroke in young individual is one of the clue for diagnosis of atrial myxoma. When patients present with non specific symptoms than diagnosis of atrial myxoma is elusive. Surgical resection is the treatment for prevention of embolization.

References