Cardiac myxoma: An uncommon cause of recurrent stroke in uncommon age

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ABSTRACT

Atrial fibrillation is the most common cause of cardiogenic emboli in stroke, responsible for over 50% cases of total stroke patients. Myxoma is responsible only in few cases. A stroke caused by left atrial myxoma commonly occur in young females. This patient presented with the repeated attack of stroke in the age of 80 years. However, it is the most common benign cardiac tumor found more frequently. In young adults with stroke or transient ischemic attack than in older patients. Age of the patient and unusual cause of recurrent stroke make this case report interesting. An 80-year-old male with no other conventional vascular risk factors such as hypertension, diabetes, or hyperlipidemia presented with left hemiparesis. Infarction over the right middle cerebral artery was disclosed on a magnetic resonance imaging study. The patient was a known case of right hemiparesis 3 years back, which was improved. The cause of repeated attack of stroke was left atrial myxoma, diagnosed by two-dimensional echocardiography.

Key words: Echocardiography, hemiparesis, infarction, left atrial myxoma, recurrent stroke

INTRODUCTION

Cardiac myxoma itself uncommon and cause of recurrent stroke make it further rarer. The most common cause of cardiac tumors is secondary (metastasis). Cardiac myxomas are the most common primary cardiac tumor of commonly involved left atrium in 85-90% of cases. Female predominance than male with 2:1 ratio and occur in 30-60 decades of life. Atrial fibrillation is the most common cause of cardiac embolic stroke. Cardiac myxomas are an uncommon cause of embolic stroke in older patients (1 in 750) than young adult (1 in 250)[1]. Early diagnosis is necessary to prevent its devastating complication such as embolic stroke and sudden cardiac death. We are presenting a rare case of recurrent embolic stroke caused by atrial myxoma in old age.

CASE REPORT

An 80-year-old male patient was admitted in the Department of Medicine in Sardar Patel Medical College with the chief complaint of the left side of weakness 2 days back. Patient has a history of stroke with right...
The patient was asymptomatic 2 days back then he developed a sudden onset of weakness of left upper and lower limbs. Previously, he was not investigated for cardiac embolization. He was conscious cooperative and well-oriented to time place person with Glasgow Coma Scale 10. The patient had no any history of hypertension, diabetes mellitus; and no family history cardiovascular disorder. On admission, he had a blood pressure of 110/80 mmHg, 86/min pulse rate, and respiratory rate of 18 with normal temperature by axilla. Heart rate was regular with 80/min. Saturation was maintained on room air. No history of smoking and alcohol consumption. Jugular venous pulsation and carotid impulse were normal. Cardiac examination revealed regular rhythm. First and second heart sound were normal. Apex was on the fifth intercostals space medial to midaxillary line. No cardiac murmurs were appreciated on auscultation. The chest was clear on auscultation. Neurological examination revealed 1/5 motor strength on left upper and lower limbs and 3/5 on the right side. Reflexes were brisk bilateral in all joint of upper and lower limbs. Clonus was not present. Higher mental function was normal. Babinski sign was positive bilaterally. Blood tests were normal in range. Electrocardiogram showing normal sinus rhythm with right axis deviation. Chest roentgenography show left atrium and right ventricle enlargement. Magnetic resonance imaging (MRI) of brain shows alter signal intensity in the right parieto-temporal region and right basal ganglia region appearing hyperintense on T2-weighted and fluid attenuation inversion recovery images. Multiple old lacunar infarct and gliotic areas were seen in bilateral frontoparietal periventricular and subcortical, centrum semiovale, and corona radiata [Figure 1]. Transthoracic echocardiography show a heterogeneous mass of size 4.8 cm × 2.8 cm in left atrium arising from septum, partially occulting mitral valve orifice moving freely with moderate dilation of left atrium and right ventricle enlargement [Figure 2a and b]. The transvalvular pressure gradient of the tricuspid valve was 32 mmHg.

**DISCUSSION**

Atrial myxomas are the most common primary tumor of the heart. It is commonly occur in females with 2:1 ratio and Most commonly involved in the age group of 30-60 years. Although the most common cause of cardiac tumor is metastasis from other site. The primary cardiac tumor is rare, myxoma account 30-50% of all. Delay in the diagnosis from the onset may range from 1 to 126 months. There were overlapping neurological presentations. The most common presentation was ischemic stroke (83%), most often in multiple sites (41%). That means, once the cardiac myxoma is diagnosed, a subsequent search for possible embolic targets should be done. In a series of 112 consecutive cases over a 40-year period, as reported by Pinede et al. signs of embolism were present in 33 patients (29%). The embolic locations were the central nervous system (73%), the retinal artery (3%), the upper and lower extremities (45%), and the coronary arteries (12%). Most myxomas are sporadic, but familial myxoma well-documented with 7%. Approximately, 70% of myxoma is originated from left atrium followed by right atrium, right and left ventricle, respectively. Myxomas are generally asymptomatic until unless embolic complication occur. Generally, patients have clinical manifestations as constitutional symptoms such as fever, arthralgia, and weight loss due to an immunological reaction to tumor. Myxomas are undiagnosed for a long duration and are incidental finding in two-dimensional (2D)-echocardiography. Because the patient was asymptomatic for a long duration, patient usually presented with sudden onset of embolic stroke or cardiac death. Embolism occurs in about 30-40% of patients with myxomas. Mostly myxomas are pedunculated leads to embolic stroke. Intermittent obstruction of mitral orifice leads to syncope or sudden cardiac death. Due to increased expressions of interleukin-6 by vascular endothelial growth factor which is secreted by myxomas have immune reaction to the neoplasm and elevated levels of antimyocardial...
antibodies.[8] To prevent the recurrence of embolic stroke, surgical resection is mandatory. The prognosis of surgical intervention is good. Survival rate was 95% after a median follow-up of 3 years.[9] In our study, patients have repeated attack of embolic stroke which was previously not investigated. Hence, he presented with repeated attack of ischemic stroke caused by left atrial myxoma. Myxomas are benign, but can be lethal if obstructing the intracardiac flow. Occasionally, atrial myxoma may be presented with endocarditic, and systemic septic emboli become infected by bacteria or fungus.[10]

The diagnostic method of choice is 2D-echocardiography. Transthoracic echocardiography has a sensitivity of around 90% in the diagnosis of left atrial myxoma. Transesophageal echocardiography is useful for detailed examination of the shape, size, location, movement, and origin of the myxoma.[11] MRI of the brain is the most useful modality to demonstrate ischemic lesions at the early phase of the stroke.

**CONCLUSION**

Clinician often missing the diagnosis of cardiac myxoma in the absence of cardiac complaint. Diagnosis often delayed until complications occur in the form of embolic stroke or systemic embolization. Cardiac myxoma may be present with stroke in old age, keep in mind. At present, 2D-echocardiography is the investigation of choice and surgery is the treatment of choice.

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**Conflicts of interest**

There are no conflicts of interest.

**REFERENCES**

1. Reynen K. Cardiac myxomas. N Engl J Med 1995;333:1610-7.
2. Allard MF, Taylor GP, Wilson JE, McManus BM. Primary cardiac tumors. In: Goldhaber SZ, Braunwald E, editors. Cardiopulmonary Diseases and Cardiac Tumors: Atlas of Heart Diseases. Philadelphia: Current Medicine; 1995. p. 15.1-15.22.
3. Colucci WS, Schoen FJ. Primary tumors of the heart. In: Braunwald E, Zipes DP, Libby P, editors. Heart Disease. A Textbook of Cardiovascular Medicine. 6th ed. Philadelphia: W. B. Saunders Co.; 2001. p. 1807-22.
4. Percell RL Jr, Henning RJ, Siddique Patel M. Atrial myxoma: Case report and a review of the literature. Heart Dis 2003;5:224-30.
5. MacGowan SW, Sidhu P, Aberne T, Luke D, Wood AE, Neligan MC, et al. Atrial myxoma: National incidence, diagnosis and surgical management. Ir J Med Sci 1993;162:223-6.
6. Ekinci EI, Donnan GA. Neurological manifestations of cardiac myxoma: A review of the literature and report of cases. Intern Med J 2004;34:243-9.
7. Pinede L, Duhamet P, Loire R. Clinical presentation of left atrial cardiac myxoma. A series of 112 consecutive cases. Medicine (Baltimore) 2001;80:159-72.
8. Mendoza CE, Rosado MF, Bernal L. The role of interleukin-6 in cases of cardiac myxoma. Clinical features, immunologic abnormalities, and a possible role in recurrence. Tex Heart Inst J 2001;28:3-7.
9. Keeling IM, Oberwaldner P, Anelli-Monti M, Schuchlenz H, Demel U, Tilz GP, et al. Cardiac myxomas: 24 years of experience in 49 patients. Eur J Cardiothorac Surg 2002;22:971-7.
10. Braunwald E, Zipes DP, Libby P. Heart Disease: A Textbook of Cardiovascular Medicine. 6th ed. Philadelphia: WB Saunders; 2001.
11. Mügge A, Daniel WG, Haverich A, Lichtlen PR. Diagnosis of noninfective cardiac mass lesions by two-dimensional echocardiography. Comparison of the transthoracic and transesophageal approaches. Circulation 1991;83:70-8.