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Case Report

Atrial myxoma causing cerebral embolic ischemic stroke as the first presentation in an apparently asymptomatic young male with birth asphyxial injury: a case report

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ABSTRACT

A myxoma is the most common primary tumor of the heart. It has been reported as the source of a cardiogenic embolism. Therefore, it is important for clinicians to detect the myxoma early to prevent complications like cerebral embolic stroke. This report presents the case of a 40-year-old male with birth asphyxial injury whose first clinical manifestation of atrial myxoma was an ischemic stroke. Atrial myxoma was later confirmed as the cause of his symptoms by echocardiography and cardiac CT scan along with Doppler studies.

Keywords: Atrial myxoma, Embolic ischemic stroke

INTRODUCTION

Cerebral infarction induced by cardiogenic embolism is observed in about 20% of stroke patients. Out of those, atrial fibrillation is responsible for over 50% of the cardiogenic emboli, while myxomas are observed in only 0.5% of cases.[1]

Atrial myxomas are a very rare source of cardiogenic embolism. Although they are usually asymptomatic, myxomas can develop lethal complications without warning because of their ability to embolize. This report describes a patient who presented with sudden onset altered sensorium, the cause of which was found to be multiple acute and subacute cerebral infarcts on CT scan brain.

Later the source of these embolic infarcts was identified as left atrial myxoma detected by echocardiography and confirmed by cardiac CT scan along with Doppler studies.

CASE REPORT

A 40 year old male presented to the emergency room with one day history of sudden onset altered sensorium along with motor aphasia. There was no preceding history of fever or any abnormal movements. The patient had no medical history of dyspnoea on exertion, dizziness, fainting, palpitations or chest pain. There was no history of hypertension or diabetes but had history of right hemiparesis since birth due to birth asphyxial injury. There was no significant family or personal history.

The patient's vital signs were as follows: blood pressure 112/72 mm of Hg in both the arms; heart rate 94 beats/minute and regular; respiratory rate 18/minute and body temperature 99.0°F. His Glasgow coma scale score was 3. Signs of meningeal irritation were absent. Plantar was extensor on left and mute on right side. The deep tendon reflexes were 3+ on left side and 2+ on right side but clonus was absent. His sensations and bowel bladder habits could not be assessed. Cardiac examination was

unremarkable except loud S1. Rest examination was within normal limits. A non-contrast computed tomography (CT) scan of the brain revealed multiple well defined hypodense lesions and large ill-defined hypodense lesions in right fronto parieto occipital lobe and left occipital lobe s/o multiple acute and subacute infarcts respectively. It also showed irregular margins of bilateral lateral ventricles s/o sequelae of birth asphyxia. An EKG showed a normal sinus rhythm. Chest X-ray showed a normal cardiac silhouette with no signs of pulmonary edema. All his routine laboratory investigations including coagulation profile and immune panel were normal. On echocardiography a 54x40 mm mass was seen in the left atrium. Further, colour Doppler study confirmed the vascular nature of the mass. The CT scan of cardiac chambers also showed ill-defined hypodense filling defect in left atrium extending into left ventricle of size 31x21x36 mm. The patient was thus diagnosed with a cerebral embolic ischaemic stroke with a left atrial myxoma. Patient was started on anti-coagulation along with standard treatment and he started recovering well. The patient will be planned for surgical excision of the myxoma once his general condition is good enough to tolerate the surgery.

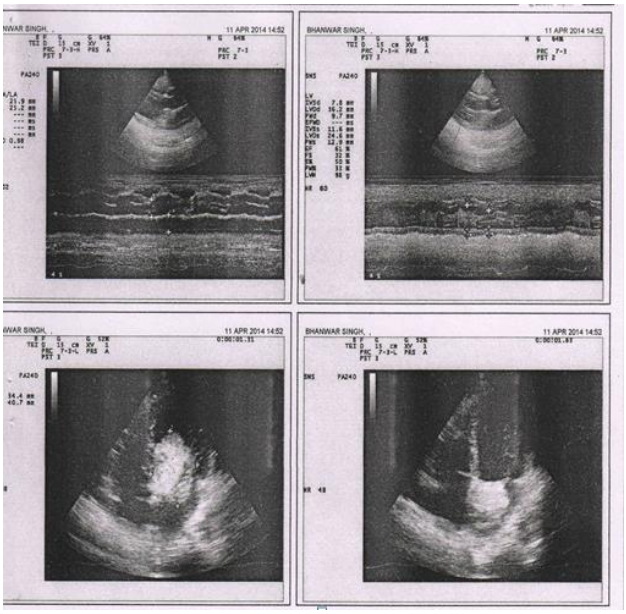

Figure 1: Left Atrial myxoma prolapsing through mitral valve.

DISCUSSION

Primary cardiac neoplasms are rare, with incidences ranging from 0.001–0.3% in autopsy series. Benign tumors account for 75% of primary neoplasms and rest are malignant. Myxoma is the most common primary tumor of the heart. They comprise 30–50% of primary cardiac tumors.[1] This tumor is three times more common in females than in males and generally occurs between the third and sixth decades, with an average age of presentation at 43 years.[2]

Approximately one-half of the cases of myxomas are pedunculated tumors, and these are irregular and more likely to result in emboli because of the mobility of this type of tumor.[3] Sixty to 75% of cardiac myxomas develop in the left atrium, most of which are from the atrial septum near the fossa ovalis. Most other myxomas develop in the right atrium.[4] Myxomas produce a vascular endothelial growth factor that stimulates angiogenesis and tumor growth and an increased expression of interleukin-6.[5]

A myxoma may be completely asymptomatic until it grows large enough to obstruct the mitral or tricuspid valve or fragments that give rise to emboli. Because they are intravascular and friable, tumor embolization is more common with myxomas.[1] Embolism occurs in about 30–40% of patients with myxomas. The site of embolism is dependent upon the location of the myxoma (left or right atrium) and the presence of an intracardiac shunt. This is not surprising, given the degree of motion that can be seen on echocardiography and angiography, as the myxoma swings on a small pedicle with each cardiac contraction.[6] Intermittent acute obstruction of the mitral orifice has been reported to produce syncope and even sudden death. Some myxomas produce generalized symptoms resembling an autoimmune disorder, including fever, weight loss, digital clubbing, myalgias, and arthralgias. These patients may have an immune reaction to the neoplasm, as elevated levels of interleukin-6 and antimyocardial antibodies have been described.[5]

The emboli that occur are either a tumor fragment that is released from the myxoma or a blood clot that is formed on the surface of the myxoma. These resulting emboli can result in infarction, as occurred in our patient. More precisely, it has been reported that 45% of patients with myxomas have neurologic manifestations resulting from embolization.[7] This embolization includes pulmonary embolism, myocardial infarction, mesenteric infarction, retinal artery occlusion, spinal cord ischemia, and stroke.[2-7] Ischemic infarction of the brain is responsible for the majority of cases of systemic embolization. The MCA is frequently affected by this type of infarction because of the MCA's dominant blood flow.[8] Thus, in cases where frontal or parietal infarction is suspected in a patient with myxoma, the MCA territory should be thoroughly investigated.

Usually, the diagnosis is readily established by two-dimensional echocardiography, which is considered the gold standard. MRI has been of value in diagnosis, providing excellent cardiac definition. Whether performing TTE or TEE, echocardiography is able to evaluate the location, size, shape, and movement of myxomas. TTE or TEE may also show other cardioembolic sources, such as a patent foramen ovale, mitral valve calcification, or aortic atherosclerosis. Prompt resection is required after the diagnosis, even in asymptomatic patients. It is important that myxomas should be excised with negative margins because any

remnant can aggravate an infarction. The recurrence rate is 1~3% after surgery.[9] Therefore, all patients with myxomas are recommended to undergo long-term follow-up with echocardiography. With ischemic stroke patients, physicians should use TTE routinely specially in a case of young stroke to search for cardiogenic embolic sources.

CONCLUSION

This case demonstrates the importance of investigating the possibility of cardiogenic source in stroke especially in a young individual who was previously apparently asymptomatic and not having any cardiac symptoms, as our patient developed cerebral infarction that was caused by an atrial myxoma. It is important that clinicians consider using echocardiography in ischemic stroke patients. Timely treatment of the atrial myxoma can prevent a cardioembolic stroke and its complications. In conclusion we can say that although myxomas are 3 times more common in females still should always be considered in the differential diagnosis whenever a physician encounters a young male with ischemic stroke even though without any history of cardiac symptoms.

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REFERENCES

1. Reynen K. Cardiac myxomas. N Engl J Med 1995;333(24):1610-7.
2. Le BD, De Lemos JA, Wait MA, Goff G, Boehrer J, Peterson GE. Left hemiparesis from atrial myxoma emboli. Cardiol Rev. 2003;11(1):41-4.
3. Rescigno G, Matteucci SL, D'Alfonso A, Iacobone G, Piccoli GP. A cryptogenic pulmonary embolism: left atrial myxoma occluding an atrial septal defect. J Thorac Cardiovasc Surg 2006;132(5):1223-4.
4. Ozaydin M, Dogan A, Altinbas A. Left atrial myxoma presenting with acute myocardial infarction – a case report. Angiology 2005;56(6):767-9.
5. Bajraktari G, Emini M, Berisha V, Gashi F, Beqiri A, Zahiti B, et al. Giant left atrial myxoma in an elderly patient: Natural history over a 7-year period. J Clin Ultrasound. 2006,34(9):461-3.
6. Schmidt D, Hetzel A, Geibel-Zehender A: Retinal arterial occlusion due to embolism of suspected cardiac tumors – report on two patients and review of the topic. Eur J Med Res. 2005;10(7):296-304.
7. Hirose G, Kosoegawa H, Takado M, Shimazaki K, Murakami E: Spinal cord ischemia and left atrial myxoma. Arch Neurol. 1979,36(7):439.
8. Hofmann E, Becker T, Romberg-Hahnloser R, Reichmann H, Warmuth-Metz M, Nadjmi M. Cranial MRI and CT in patients with left atrial myxoma. Neuroradiology. 1992;34(1):57-61.
9. O'Rourke F, Dean N, Mouradian MS, Akhtar N, Shuaib A. Atrial myxoma as a cause of stroke: case report and discussion. CMAJ 2003;169(10):1049-51.

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