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Cardiac Myxoma Revealed By Ischemic Stroke, Case Report

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I. Introduction:

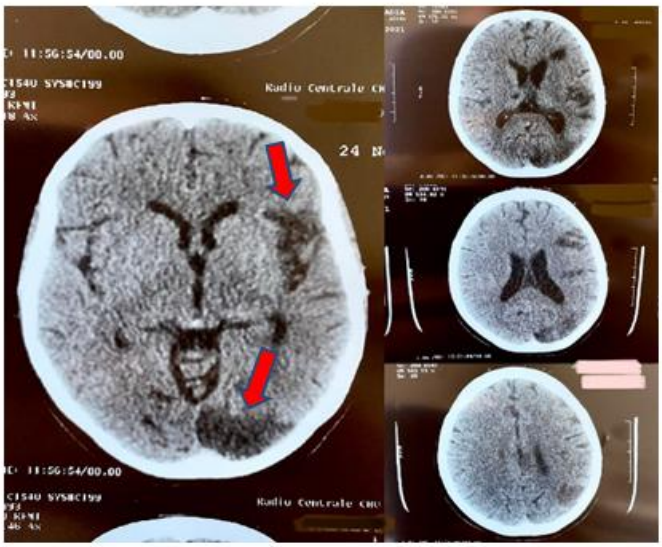
Cardiac myxoma is a rare cause, but an important etiology as well for stroke in the young [11]. Although rare, myxoma remains the most common heart tumor in adults (9). Commonly found in the left atrium. However, nonspecific systemic symptoms and minor embolic phenomena may be over- looked in the absence of any history of cardiac problems. In this situation, cardiac investigations may not be performed and diagnosis of this rare condition may be delayed until the onset of more significant embolic disease, such as stroke with functional impairment, as in the case reported here. The clinical presentation of cardiac myxoma is discussed, along with appropriate investigations and treatment, which may prevent such sequelae.

We report the case of patient admitted to our department with ischemic stroke revealing a left intra-atrial myxoma. She underwent a successful surgical excision of this myxoma. This article aims to highlight the pertinent aspects of this rare condition.

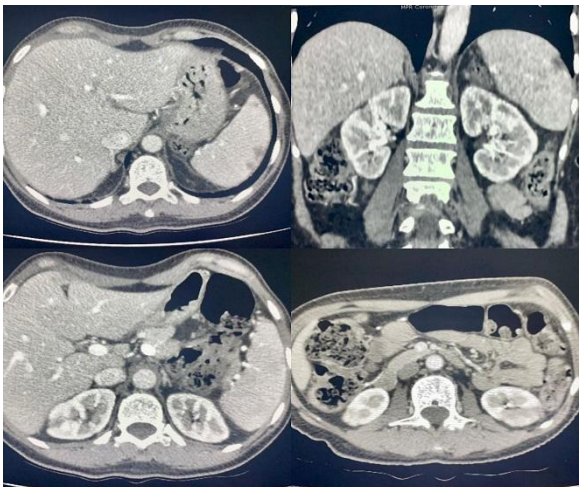
II. Observation:

A 51-year-old woman having menopause as cardiovascular risk factors, she was initially hospitalized in the neurology department for the management of a prolonged loss of consciousness of sudden onset with persistent aphasia. She also reported holocranial headaces, without notion of seizures or signs of intracranial hypertension. The patient was afebrile in good general condition. Cerebral CT scan was carried out objecting an ischemic stroke in supratentorial with old appearance (Fig.1) in the same the Thoraco-abdominal CT scan revealed acute bilateral renal and splenic infarctions (Fig.2).

Subsequently, the patient was referred to the cardiology department to look for embolism of cardiac origin. The cardiac examination was normal with an electrocardiogram recorded a regular rhythm with no repolarization or conduction disorder.

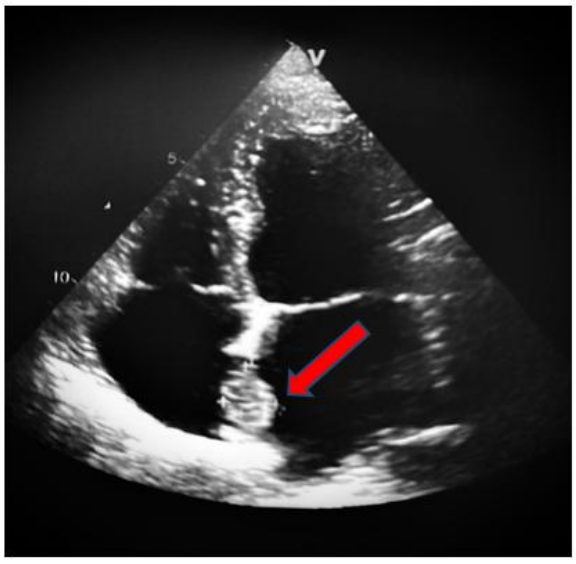


(Fig. 1) : Cerebral CT:Supra tentorial ischemic lesion

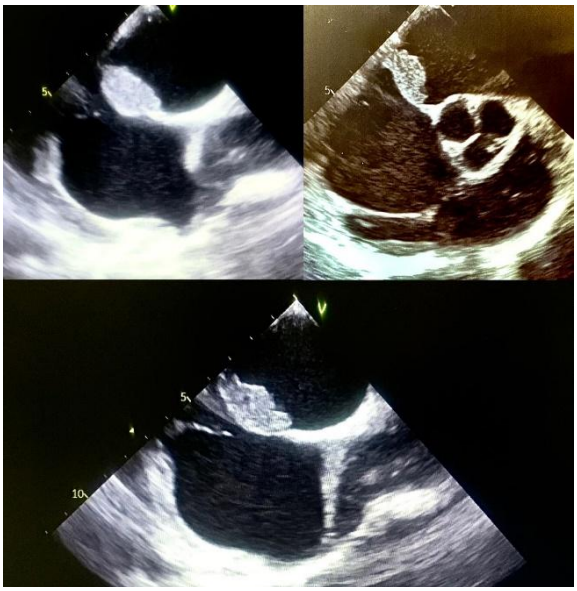


(Fig. 2) :Abdominal CT:Acute renal and splenic infarctions

Echocardiography (TTE) revealed a rounded hyperdense mass with a large implantation base at the level of the intra-atrial septum (AIS) measuring 25X 15 mm over which a thrombus measuring 5X5 mm with good biventricular functions (LVEF=63%) without mitro-aortic valve disease notable (Fig.3). Transesophageal ultrasound (TOE) confirms the presence of a heterogeneous echogenic motile polylobed mass attached to the septal wall of the left atrium (Fig.4). In addition, angio-CT scan of her supra aortic vessels was performed without notable anomalies; even Hematology investigations were unremarkable.



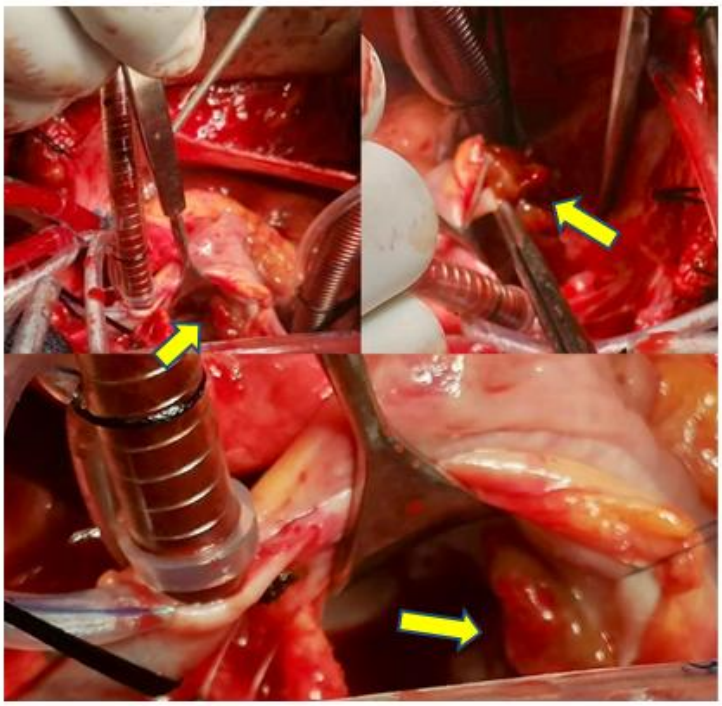
(Fig. 3) : TTE : 2 D Echo showing atrial myxoma measuring 25*15mm



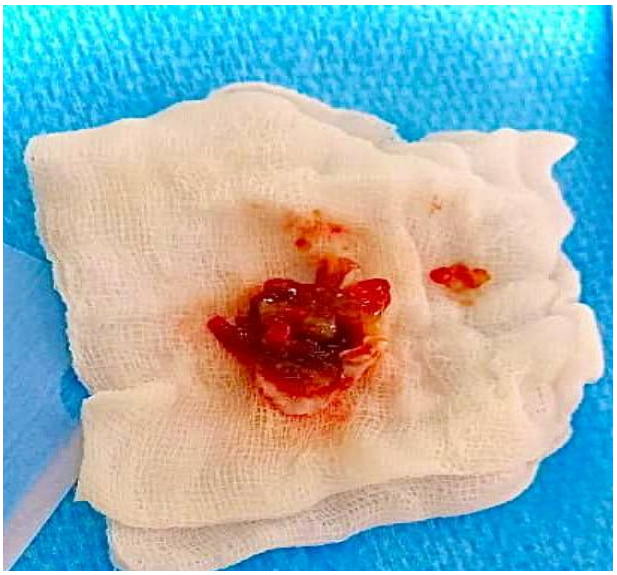
(Fig. 4) TOE : Motile polylobed mass on the left atrium

The diagnosis retained was that of primary cardiac myxoma, in the absence of a neoplastic clinical and para-clinical context. The differential diagnosis entertained in view of the clinical, neuroimaging, as well as cardiac imaging findings were intracardiac tumor-like myxoma versus infective or noninfective endocarditis. Given the symptomatic nature of this tumor, surgical excision was quickly scheduled.

The surgical treatment was carried out under cardiopulmonary bypass with hemodynamic control to avoid any secondary embolization. After myocardial protection the tumor was approached by bilateral auriculotomy , which demonstrated a polylobed mass with myxoid aspect in intra-OG having a very wide implantation base at the level of the intra-auricular septum (Fig.5).the resection of the mass made by potting its implantation base associated with closure of the septal defect and both right and left auriculotomys .



(Fig.5) Operative excision of myxoma



(Fig.6) The excised 21*16mm mass, including the rim of the atrial mass

The postoperative consequences were simple without complications with amelioration in her neurological status and Echocardiography aspect. The anatomy-pathological results of the tumor pieces confirmed the myxoid nature of the tumor (Fig. 6) . The patient was maintained on single antiplatelet agent for secondary stroke prophylaxis, with advice for speech and language rehabilitation for his residual neurological deficits.

III. Discussion:

At autopsy, the incidence of primary tumors of the heart is very rare; heir incidence ranges only between 0.001% and 0.3% (19) , In these rare instances, cardiac myxomas are the most common primary cardiac tumor in 80% of the cases [20] , with an estimated annual incidence of 0.5 per million population per year [25] . Cardiac myxoma has been defined by the World Health Organization as a neoplasm composed of stellate to plump, cytologically bland mesenchymal cells set in a myxoid stroma (2), Embryologically, the tumor is believed to originate from entrapped undifferentiated embryonic foregut (3). Lee et al. reported that the stroke patients aged 48.5 years (range, 17-70) [12]; Ekinci & Donnan's patient series aged between 6 and 82 years [13] . Aziz et al. reported a female predominance with a female-male ratio of 2:1 in cardiac myxoma [26], More than 80% of cardiac myxomas arise from the left atrium (5).

myxoma represent a rare etiology of cardioembolic stroke (1). Cardioembolic stroke accounts for 14-30% of ischemic strokes with a predilection of early and later recurrences [10], there is no consensus regarding whether or not tumor size is related to the likelihood of a stroke. Some reports showed that the mobility and morphology of the tumor, but not its size, appears to be related to its embolic risk (14,15,16) .On the other hand, some studies showed that smaller tumors with an irregular surface were more common in embolic events (17,18).

Although cardiac myxomas are histologically benign, they may be lethal because of their strategic position, they can mimic not only every cardiac disease but also infective, immunologic, and malignant processes [20] . Myxomas must therefore be included in the differential diagnosis of valvular heart disease, cardiac insufficiency, cardiomegaly, bacterial endocarditis, disturbances of ventricular and supraventricular rhythm, syncope, and systemic or pulmonary embolism [20]. Multitude of presentations in the form of cardiac obstructive symptoms, embolization (cerebral and/or systemic) as well as constitutional symptoms (4-6). Fifty percentage of cardiac myxoma patients present with symptoms related to mitral valve obstruction (dyspnea, dizziness, palpitations, and congestive heart failure), and can occur in up to 70% of them during the natural course of the illness (5). Constitutional symptoms in the form of fever, weight loss, and fatigue may occur in about 58% of those with cardiac myxoma.

Systemic embolization can be noted in one-third of cases at any time during the course of the illness (4-6). Neurological symptoms have been documented in about 26% to 45% of cardiac myxomas (5). Cerebral embolization may present commonly as ischemic infarcts (4, 5) and rarely with myxomatous intracranial aneurysms, brain parenchymal myxomatous metastases, as well as intracerebral hemorrhage (?). Active illness is often accompanied by elevation of erythrocyte sedimentation rate and C-reactive protein, hyperglobulinemia and anemia. Constitutional symptoms may be mediated by interleukin-6 produced by the myxoma itself (24)

We stress on the importance of echocardiographic examination in young patients after ischaemic stroke and multidisciplinary team cooperation in the treatment management of such patients. Transthoracic echocardiography gives the initial clue toward the presence of a cardiac mass, with transesophageal echocardiogram providing further details about the location as well as mobility, especially for small-sized lesions and biatrial multiple cardiac tumors (7,8) . Cardiac MRI can assist in delineating tumor size, attachment and mobility [27]. This information may be helpful in surgical resection, which, because of the risk of further embolization, should not be deferred even in asymptomatic cases discovered incidentally.

Yanlei Zhang .al reported a 10 years cumulative survival rate was more than 85% in cardiac myxoma patients who underwent surgery, his report deals just with the long-time outcome of cardiac myxoma with and without stroke. The lack of difference in survival between the two groups shows that surgical resection is a relatively safe procedure for treating cardiac myxoma patients in both the stroke and the non-stroke groups (31) . .Primary tumors recur in only 1% to 3% of sporadic cases, often because of inadequate resection. For patients with sporadic myxoma, annual review with echocardiography is suggested for a period of 3 to 4 years, when the risk of recurrence is greatest [28].The recurrence rate is 1~3% after surgery (29). For Carney complex, which has a recurrence rate of up to 25%, lifetime annual review with familial screening is recommended (30).

IV. Conclusion

Cardiac myxoma stroke is rare and ischemic strokes being the most common presentation. Surgical removal of the tumor should be performed as soon as possible; the long-term prognosis is excellent, and recurrences are rare. In follow-up examinations as well, echocardiography is essential.

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