

## Left Auricular Mixoma Debuting in Ischemic Incident

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### Abstract

The myxomas are the most common primary cardiac tumours. The majority of them are benign and can be an incidental finding or be almost asymptomatic. The symptoms depend on their location, with the most common being the left atrium, which carries an increased risk of clots. The main effects of the clots are on the central nervous system, but occasionally they can involve the respiratory, peripheral, or coronary system.

The case of a 30-year-old patient without comorbidities with left atrial mixoma, which is manifested by ischemic stroke, is presented.

**Keywords:** Heart Tumour; Fever; Weight Loss

### Introduction

Mixomas are the most common primary heart tumour [1]. It is estimated that more than 75% of myxomas originate in the left atrium, either in the mitral ring or on the edge of the oval hole of the interarticular perimeter; 20% originate from the right atrium while 5% originate both from the atrium and the ventricle [2,3]. Ear myxomas are associated with a triad of complications, which include obstruction, embolisms, and constitutional symptoms (such as fever, weight loss) [2,4]. Due to high systolic pressure and location, left atrial mixomas were highly associated with an increased risk of systemic embolization, in the central nervous system, the retinal arteries, as well as the visceral, spleen, kidneys, adrenal glands, abdominal aorta, iliac and femoroplyteal artery [5]. Therefore, patients may have a variety of presentations, such as transitory ischemic accident, hemiplegia, loss of vision, chest pain, and dyspnoea. Neurological defects are probably the most serious complications of embolization's associated with left-ear mixomas [6].

### Case

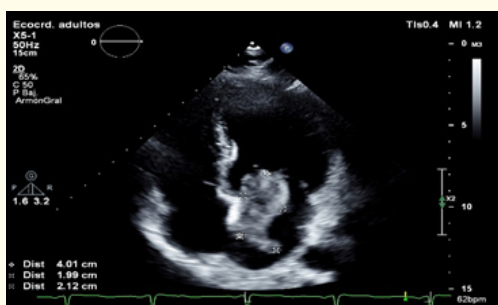
30-year-old woman without a personal history of pathology, who 5 hours prior to her admission presents clinical picture characterized by loss of alertness of 5 minutes of duration accompanied by dysarthria, hemiparesis right to the cardiovascular examination presents proto diastolic blowing "tumoral plop" in the left parasternal edge.

In the image of the single skull TAC is evidenced; Subacute ischemic cerebral infarction localized in the left hemisphere with affection to the temporal lobe, lower frontal twist, deep area of the semi-oval centre, lenticular core, dorsolateral portion of the head of the caudate nucleus, frontal arm and knee of the inner capsule, facial zone of the thalamus and short twists of the insula, exerts a slight effect of volume and oblitera the corresponding twists (Figure 1).

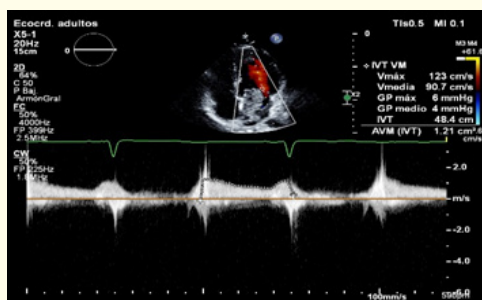


**Figure 1:** Subacute ischemic cerebral infarction located in the left hemisphere with temporal lobe affection.

Transthoracic echocardiogram; observed in left ear with diameters of 37x37x49mm, volume left ear 38 ml/m<sup>2</sup>, observed multilobulated and hypomobile tumour with consistency of different erogenicities and cystic zones, of gelatinase consistence, adhered to the interarticular septum with a base of 25x27 mm very close to the anterior level of the septum and through this near the aortic valve, the size of the tumour is 40 x 20 mm and the larger lobe of 21x20 mm, (Figure 2) slides through the anterior mitral valve without being adhere to it and interferes with the opening originating a functional stenosis of light degree area by 3D planimetric 2.3 cm<sup>2</sup>, medium gradient 4 mmHG Maximum speed of 1.2 m/s, insufficiency is mild with contract vena of 2 mm (Figure 3).



**Figure 2:** Apical axis 4 chambers are observed in left atrial tumour is 40 x 20 mm and the larger lobe is 21 x 20mm.



**Figure 3:** Mitral valve continuous Doppler, has mild grade gradient functional stenosis medium 4 mmHG Maximum speed of 1.2 m/s, insufficiency is mild with contract vena of 2 mm.

The right auriculectomy is performed, the interarticular septum is opened by finding a left auricular tumour with a pedicle attached to the middle third of the inter Auricular Septum, thereby resecting the septum by obtaining a mucoid-looking tumour output of approximately 5X4CM (Figure 4). Biopsy (2408739) is performed which describes; a fragment of tissue of irregular shape and surface, measuring 4.3 x 3.8 x 1.2cm., of white colour with translucent areas and areas of bleeding, of soft consistency, are performed se-



**Figure 4:** Tumour of mucoid appearance of approximately 5X4CM.

ries cuts observing solid and heterogeneous in which white areas are mixed with dark brown, the presence of auricular mixoma is concluded.

### Discussion

Cardiac myxoma is an uncertain histogenesis neoplasm that occurs only on the endocardial surface, most often of auricular localization. The histological diagnosis is based on the finding of typical cells in a mucopolysaccharide-rich matrix. Heart mixoma cells are histologically and histogenetically different from the fusiform cells of soft-part mixomas. It has been postulated that the cells that give rise to this tumour are the so-called “subendothelial reserve cells”, totipotentials and capable of forming vascular structures [7] and expressing endothelial and neural markers. The existence of an aneuploid cell population in a tumour is generally considered as evidence that the lesion is neoplastic [8]. The presence of aneuploidia, as well as the finding of chromosomal abnormalities in cases of mixomas, supports the neoplastic origin of this tumour.

The size and location of the mixomas determine the clinical manifestations of obstruction to the intracardiac blood flow, with the simulation of valvulopathies of various types, especially mitral narrowness. The size of the tumour and also the different positions of the body can determine the severity of the obstruction. Symptoms vary from dyspnoea due to heart failure or syncope, to sudden death due to complete obstruction.

Embolization is a common manifestation, which is associated with small tumours (<4.5cm<sup>2</sup>). Most embolisms migrate to the central nervous system and cause strokes; however, they can migrate anywhere in the arterial system and produce a variety of signs and symptoms. There are cases of lower limb or coronary embolism, among others. In some cases there may be cardiac and extracar-

diac manifestations, including acute myocardial infarction, cerebrovascular events, pulmonary embolism and fever of unknown origin; however, a classic triad has been established, consisting of obstructive and constitutional symptoms, in addition to embolic events [9].

With regard to cerebrovascular events associated with cardiac mixomas, up to 22% of cases have occurred, with predominance in the female sex. The ideal imaging study is brain nuclear magnetic resonance imaging given the high rate of false negatives cast by computerized axial tomography of the skull. They run with a low mortality rate and the ideal time for tumour resection is still unclear; nevertheless, it has been recommended that it be postponed up to four weeks after the cerebral event to reduce the risk of perioperative death [10].

The diagnosis is challenging; it is carried out through transthoracic, transoesophageal and cardiac nuclear magnetic resonance echocardiogram, although sometimes it can be identified by cardiac computerized axial tomography. The echocardiogram can easily visualize the mass and describe location, shape, size, number and morphological characteristics; furthermore, it evaluates the hemodynamic consequences of the tumour [11]. In tomography, mixomas can be well defined, appear lobulated, smooth, mobile, round or oval, with a narrow pedicle; they are generally heterogeneous and have focuses of calcification and highlighting in patches [12]. As for treatment, expertise is required and will always be surgical. It is important to determine the origin and malignancy of these tumours in the preoperative. A well-known example is renal carcinoma with expansion to the right auricle, which can be confused with a primary tumour before leading to surgery. Additionally, not all are real tumours because there are "pseudo-tumours", thrombosis, cysts and tuberculomas [12].

Postoperative echocardiographic follow-up is recommended as the recurrence rate of the tumour after successful resection reaches up to 4 to 7% [13].

## Conclusions

The ear mixomas are the most common primary heart tumours being embolization one of their most frequent forms of presentation, most embolisms migrate to the central nervous system is for this reason that the ear mixoma should be considered as one of the main causes to rule out of cerebrovascular events in young patients without comorbidities.

## Summary

Mixomas are the most common primary heart tumours. Most are benign and may be incidental or almost asymptomatic findings. The symptoms depend on their location, in which case the most common is the left atrium, hence the risk of embolism is high. The main location of embolism is the central nervous system; however, it can sometimes affect the respiratory, peripheral or coronary systems.

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