

## CASE REPORT

# Atrial myxoma as a cause of syncope in preschool age. A case report

Víctor M. Sánchez-Sotelo, Humberto Rodríguez-Saldaña, Gissel J. Soto-Pérez, Francisco J. Viguera-Valenzuela, and Omar Victorica-Guzmán.

Department of Cardiothoracic Surgery, UMAE No. 34, Instituto Mexicano del Seguro Social. Monterrey, Nuevo León, MÉXICO.

*Cardiac tumors in pediatrics are rare, a primary cardiac tumor is diagnosed between 0.001 and 0.003%. Myxomas are the most common tumors in adults. However, in pediatric age, it is in third place, behind rhabdomyomas, and fibromas. Embolism is the most common symptom in atrial myxomas, occurring in 20-45% of myxomas, resulting in neurological symptoms and related complications. Emergent resection of the tumor is currently the best treatment for children and therefore an immediate and accurate diagnosis is necessary. The case presented here is about a 2-year-old school girl with a history of claudication and progressive dyspnea, successfully operated on.*

**Key words:** Cardiac tumor; Myxoma; Embolism.

*Los tumores cardíacos en pediatría son casos poco frecuentes; se diagnostica un tumor cardíaco primario entre 0.001 y 0.003%. Los mixomas son los tumores más frecuentes en los adultos. Sin embargo, en la edad pediátrica se encuentra en el tercer puesto, detrás de los rhabdomiomas, y fibromas. El embolismo es el síntoma más común en los mixomas atriales, que ocurre entre un 20 y 45% de los casos, dando como resultado sintomatología neurológica, y complicaciones adicionales relacionadas. La resección emergente del tumor es el mejor tratamiento en la actualidad para los niños. Por lo tanto, es necesario realizar un diagnóstico inmediato y preciso. El caso que se presenta corresponde a un escolar de 2 años de edad, con la historia de claudicación y disnea progresiva, operado exitosamente.*

**Palabras clave:** Tumor cardíaco; Mixoma; Embolismo.

*Cir Card Mex 2023; 8(2): 45-47.*

© 2023 by the Sociedad Mexicana de Cirugía Cardíaca, A.C.



Primary cardiac tumor is rare in pediatrics. Myxoma is the most common in adults, they commonly occur in women in their third and sixth decades of life, but in pediatrics it is the third along with rhabdomyoma and fibroma in children [1-3]. Because myxomas are gelatinous and fragile, they sometimes lead to ischemic stroke. Myxoma in children has various symptoms depending on the size and location, therefore it is difficult to diagnose properly [4].

Many patients with myxoma present with one or more symptoms of Goodwin's triad, including embolism, intracardiac obstruction, and constitutional symptoms. Stroke is the most common symptom in myxoma. auricular in pediatrics, which occurs in 20-45% of myxomas, therefore neurological deficits due to embolic stroke are the first symptoms of myxoma in some cases [1].

Corresponding author: Dr. Víctor Manuel Sánchez Sotelo  
email: victorssotelo@gmail.com

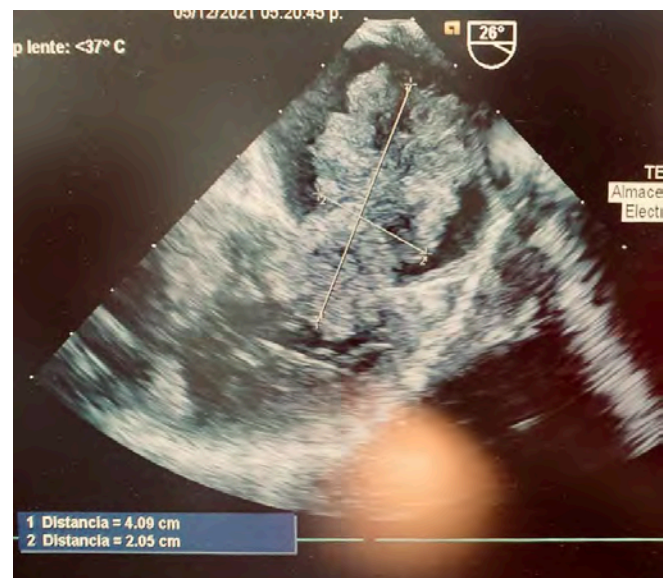


Figure 1. Tumor with irregular characteristics, in the left atrium that protrudes towards the left ventricle, decreasing the flow towards the pulmonary veins and obstructing the inlet portion.

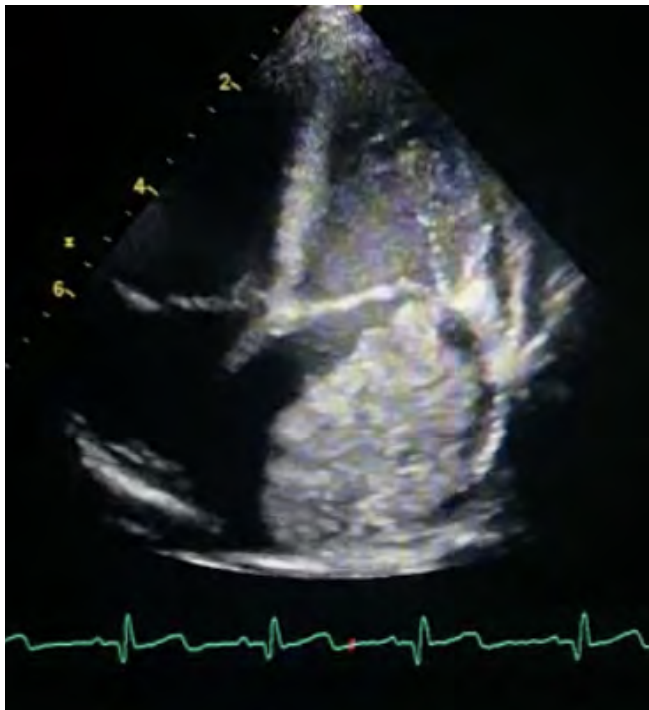


Figure 2. Tumor, mucoïd in appearance, with irregular contours in the left atrium, which occupies more than 50% of its area.

## CLINICAL CASE

A 2-year-old female referred for suspected endocarditis. The patient had no relevant history. He initially debuted with syncope lasting 30 seconds while playing and right hemiparesis that lasted for 7 days. Subsequently with deterioration of functional class with asthenia, dyspnea and claudication, for which he went to the pediatrician, who detected a heart murmur. Upon admission, an echocardiogram was performed, detecting a tumor in the left atrium (**Fig. 1**) (**Fig. 2**) with diameters of 4.09 cm by 2.05 cm without obstruction of the pulmonary veins, mild-moderate mitral regurgitation, mean gradient 15mmHg. As an emergency, surgical resection was performed, presenting the following findings: left atrial tumor with a gelatinous appearance, very friable, pedicle of the tumor to the left atrial roof (**Fig. 3**). In the postoperative period, he recovered favorably and without incident, finally being discharged at home.

## COMMENT

Primary cardiac tumor is rare in pediatrics. Myxoma is the most common in adults, but it is the third next to rhabdomyoma and fibroma in children [1-3]. Because myxomas are gelatinous and fragile, they sometimes cause ischemic strokes in childhood. Myxoma in children has various symptoms depending on its size and location, making it difficult to properly diagnose [4]. Given the different presentations of the myxoma, it has come to be considered the great imitator.

Many patients with myxoma present with one or more symptoms of Goodwin's triad, including embolism, intracardiac obstruction, and constitutional symptomatology [1]. Embolism is the most common symptom in atrial myxoma, occurring in 20 - 45% of myxomas. Therefore, neurological deficits due to embolic stroke are the first symptoms of myxoma in some cases. In some peripheral symptoms, cutaneous embolic phenomena have also been reported as "red spots" or "rash", which often occurs before brain ischemic events. In children, especially infants, intracardiac obstruction is more common than stroke because of the small chamber of the heart. Congestive heart failure was observed in 64% of lactating patients. Constitutional symptoms in patients with myxoma typically include fever, weight loss, fatigue, and dizziness [1,2].

In our case, the patient presented initial syncope and neurological deterioration, which, together with the heart murmur, led the pediatrician to suspect endocarditis. The patient also presented data of asthenia, respiratory distress and claudication, without therapeutic approach, pulmonary thromboembolism, constitutional symptoms or minor cerebrovascular accidents in the brain could have been suspected. It is unknown since when the heart murmur would have been detectable, but the early echocardiogram could have detected the myxoma before the syncope.

Cardiac myxoma has many differential diagnoses, such as immunological, infectious or malignant diseases. However, when it is resected on time, the short- and long-term prognosis is excellent. Operative mortality is 0 - 3%. Operation, as in our case, must be performed promptly due to the probability of embolism or sudden death [5].



Figure 3. Round, polypoid tumor with a gently lobulated surface.

In conclusion, although myxomas are benign, they can be fatal due to their strategic position. They can simulate cardiac and systemic diseases that can make the diagnostic process difficult, even more so when they occur at unusual ages, as in our patient.

**ACKNOWLEDGEMENT:** The authors would like to thank to the Department of Echocardiography of our institution for its support.

**FUNDING:** None

**DISCLOSURE:** The authors have no conflicts of interest to disclose.

---

#### REFERENCES

1. Ise H, Ishikawa N, Nakanishi S, Kamiya H. Giant left atrial myxoma causing acute ischemic stroke in a child. *Surg Case Rep.* 2018;4(1):6. doi: 10.1186/s40792-017-0411-2.
2. Gowda RM, Khan IA, Nair CK, Mehta NJ, Vasavada BC, Sacchi TJ. Cardiac papillary fibroelastoma: a comprehensive analysis of 725 cases. *Am Heart J.* 2003;146(3):404-10. doi: 10.1016/S0002-8703(03)00249-7.
3. Diaz G, Sandoval N, Velez JF. *Cardiología pediátrica.* 2da. edición (2018). Editorial Distribuna. Bogotá, Colombia. ISBN: 9789588813707.
4. Tzani A, Doulamis IP, Mylonas KS, Avgerinos DV, Nasioudis D. Cardiac Tumors in Pediatric Patients: A Systematic Review. *World J Pediatr Congenit Heart Surg.* 2017;8(5):624-632. doi: 10.1177/2150135117723904.
5. Reynen K. Cardiac myxomas. *N Engl J Med.* 1995;333(24):1610-7. doi: 10.1056/NEJM199512143332407.