

Atrial myxoma with hemiplegia

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Learning point for clinicians

Sudden loss of consciousness without prodromal signs and symptoms in children can be the consequence of embolism in an important vessel of cerebral circulation.

The source of the embolus can be the presence of a myxoma in the left atrium with clinically silent evolution even during high intensity training.

Background

Loss of consciousness in children and adolescents is produced, in most cases, of neurally mediated hypotension whose clinical expression is vasovagal syncope.

In the case of other types of syncope, the mechanisms involved may be: impaired of the right or left ventricular outflow tract, arrhythmias, seizures, cerebral circulation disorders, cerebrospinal fluid disruption, anxiety or depression¹.

Case Report

We present the case of an 8-year-old athlete with no significant personal history brought with the ambulance in the emergency department for loss of consciousness, vomiting and seizures with sudden onset, without prodromal signs and symptoms while she was in the playground and jumped on an elastic trampoline. After 30 minutes of beginning sedation, the patient presents right hemiplegia, difficulty in swallowing and clinical signs of right body decerebration.

Anamnesis from relatives, physical examination, blood analysis and electrocardiogram has given poor data to establish a certainty diagnosis. Subsequently, parents reported that grandmother was diagnosed with atrial myxoma, but the mother of the patient did not have it.

Magnetic resonance imaging (MRI) scan of brain scan revealed multiple areas of ischemia in the cerebellum, pons and medulla also magnetic resonance angiography (MRA) techniques, 3D including *time-of-flight (TOF)* sequences showed absence of blood flow in the left middle cerebral artery (Figure 1).

To determine the source of the emboli, the next exploration was echocardiography which revealed a giant left atrial myxoma, polylobate, with transvalvular protrusion which resulted in 3-4-degree mitral regurgitation (Figure 2).

Subsequently, the patient was sent to intensive care for monitoring and treatment but, unfortunately, died a week after the diagnosis was established.

Discussion

The absence of any clinical symptoms or signs prior to the syncopal episode, both at rest and during training, did not impose a deeper exploration at this patient.

Syncope represents approximately 1% of the total paediatric emergency which addresses to the emergency rooms, given that almost to 15% of children are reported the appearance of at least one syncope in the first twenty years of life². In 12-90% of syncope with neurological etiology, loss of consciousness is followed by convulsions³.

The surprise in this case was the presence of left atrial myxoma, asymptomatic, even in the conditions in which, patient was subjected to intense and prolonged efforts. In this case, the myxoma was not transmitted from mother to daughter, but from grandma to granddaughter.

Female sex is most commonly affected with a frequency of 65% and the medical literature records that family aggregation is 4.5-10% for myxoma which requires screening echocardiography for first-degree relatives⁴.

The clinical picture of the atrial myxoma is the result of the triad cardiac obstruction, embolism and chronic systemic inflammation, most patients having symptoms and signs characteristic of at least one of them⁵.

In most patients the electrocardiogram shows left atrial enlargement, atrial conduction disturbances or arrhythmias are sporadic. Chest radiography may be normal in one third of patients with atrial myxoma.

Myxoma represents 30-50% of the total primitive tumours of the heart, affecting adults in the 3-5 decades of life, but it can be found between 1 and 83 years. It develops in 83% of cases at the left atrium, usually attached to the oval fossa region of the interatrial septum⁶.

In this case, it seems that, at the time of the effort occurred concurrently both detachment of emboli that migrated into the cerebral circulation and the protrusion of the myxoma through the mitral orifice.

Conclusion

This case has all the ingredients that leave very limited therapeutic possibilities: ignoring or omitting the family history, absence of screening echocardiography, clinically silent atrial myxoma, and sudden onset with cerebral and cardiac complications.

Disclosure

All authors have participated in the work and have reviewed and agree with the content of the article. None of the article contents are under consideration for publication in any other journal or have been published in any journal. The manuscript has been read and approved by all the authors, contributed equally to preparing this paper, and share first authorship

Conflict of interest: Nothing to declare.

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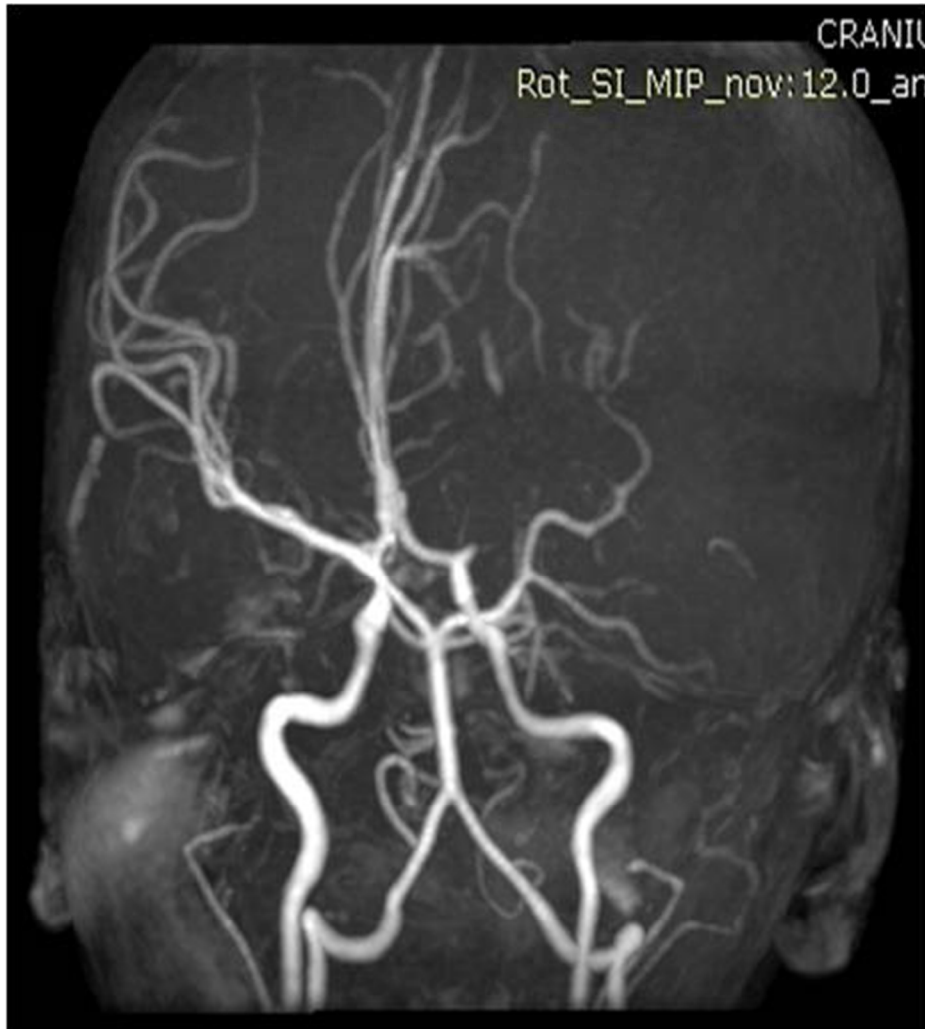


Figure 1. 3D TOF sequences showing the absence of blood flow in the left middle cerebral artery

78x88mm (150 x 147 DPI)

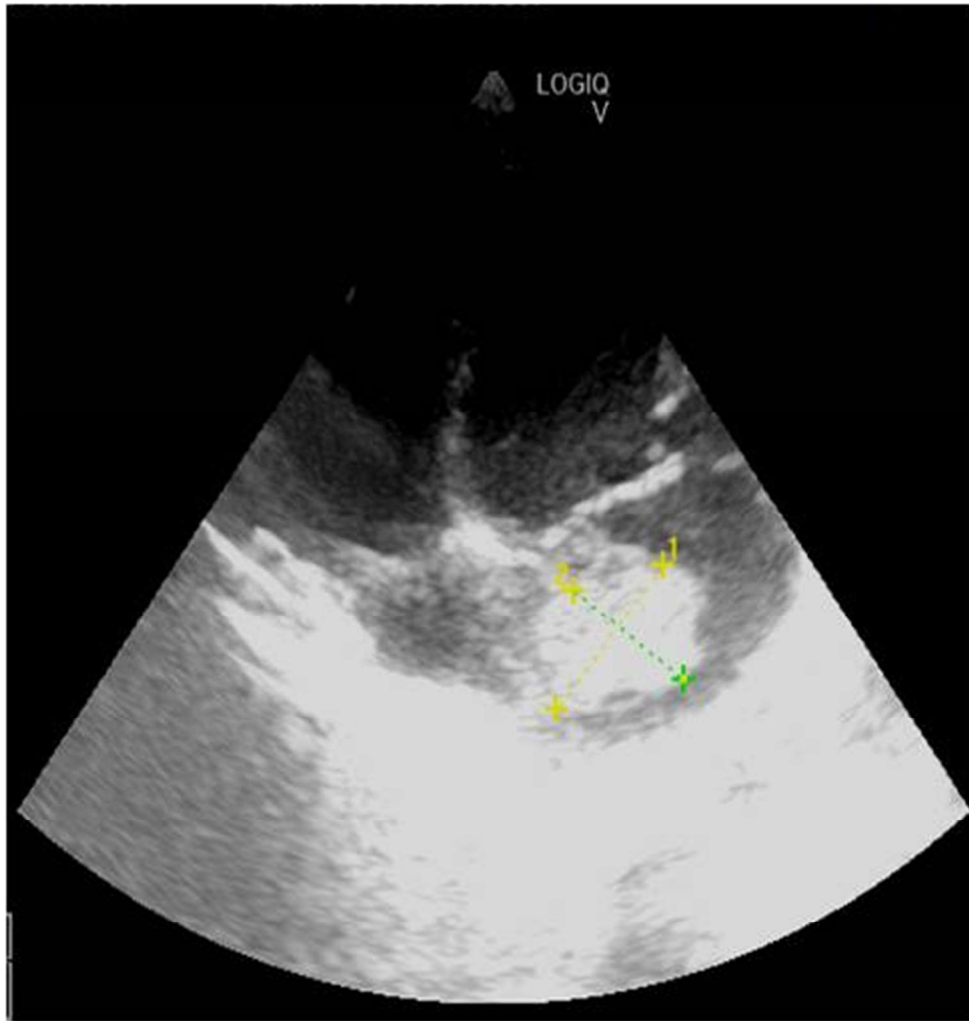


Figure 2. B mode echocardiography shows a large homogenous echoic mass in the left atrium of the heart associated with transvalvular protrusion

82x86mm (150 x 150 DPI)