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CASE REPORT

Left atrial appendix aneurysm: an accidental radiographic finding - case report

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Abstract

Left atrial appendage aneurysm is an extremely rare condition. It usually oc-curs together with changes in the mitral valve and manifests itself with cardiac arrhythmias or thromboembolisms, most commonly between the second and fourth decade of life. It can be asymptomatic, and the diagnosis is made by ob-serving radiographic changes, such as the prominence of the left cardiac bor-der. Due to the complications that can occur, surgery for resection is recommended. The present study reports a case of an infant who was seen in con-sultation for a cough complaint two months ago. An investigation was initiated which diagnosed an aneurysm of the left atrial appendage. Therefore, it is shown that although it is more common between the second and fourth decades of life, the left atrial appendage aneurysm may also be present in children.

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INTRODUCTION

The left atrial appendage aneurysm was first described in 1938.¹ It is a rare condition and in few cases the diagnosis is made in the first years of life. It is caused by congenital dysplasia of the atrial muscles.² Patients with this condition may be asymptomatic or present symptoms such as dyspnea or tachycardia³. The diagnosis is currently made with transthoracic echocardiography and, if necessary, with a transesophageal study.

The objective of this report is to describe a pediatric case of left atrial appendage aneurysm, found incidentally during the investigation of a persistent cough in an infant.

CASE REPORT

Female EPGF, 11 months old, presented for consultation in April 18 with a dry cough for two months, mainly at night and after feedings, associated with chest snoring sounds, without fever, without dyspnea or nasal symptoms.

She had already had a previous episode of coughing and was using anti-allergic medication, bronchodilators and systemic corticosteroids at the time of the consultation.

Laboratory tests for immunodeficiency were normal, prick test and RAST were negative.

Chest X-ray showed a perihilar opacity in the left lower lobe (image 1).

Antibiotic therapy with Azithromycin was administered for 5 days, together with inhaled corticosteroids and bronchodilators.

After treatment, the radiological image was unchanged.

A chest CT was ordered, which revealed posterior basal subsegmental atelectasis in the left lower lobe, without adenomegaly, normal vessels, enlargement and lengthening of the left atrial appendage with the appearance of an aneurysmal without thrombus. (image 2)

Due to the CT findings, we ordered a transthoracic echocardiogram, which showed aneurysmal dilation of the left atrial appendage.

The patient was referred for cardiological evaluation, and surgery was indicated to resect the aneurysm.

The patient underwent surgery to resect the aneurysm in August 2018, and partial agenesis of the pericardial sac was found. The surgery was uneventful.

The postoperative control chest X-ray showed a decrease in left lung volume with opacity in the left lower lobe, suggestive of atelectasis, which was accompanied by respiratory physical therapy.

Chest ultrasound in October 2018 showed diaphragmatic paralysis on the left.

Radiological control at 6 and 8 months postoperatively revealed improvement in diaphragmatic paralysis during the cardiac postoperative period.



Figure 1. Opacity with regular contours projected in the perihilar region on the left in the left upper lobe region.

DISCUSSION

Left atrial appendage aneurysm may be asymptomatic, with 16% of cases being an accidental radiographic finding.⁴ When it does present symptoms, these are heart failure, thromboembolism or palpitations. Early surgical treatment results in a better prognosis for the patient, avoiding complications such as thromboembolism, resulting from blood stasis



Figure 2. Chest tomography revealing posterior basal subsegmental atelectasis in the left lower lobe with enlargement and lengthening of the left atrial appendage with an aneurysmal appearance without thrombus.

and atrial arrhythmias caused by the left atrial appendage aneurysm. $^{\rm 5}$

Left atrial appendage aneurysm is rarely an isolated finding, most of the time it appears in association with changes in the mitral valve or pericardial defects.

The case described above also had partial agenesis of the pericardial sac, in addition to the aneurysm of the left atrial appendage, without other changes.

Transesophageal echocardiography is the method of choice for evaluating the left atrial appendage, presenting high specificity and sensitivity.⁶ Due to the proximity of the left atrial appendage to the esophagus, it is possible to have a good visualization of this structure and analyze the presence of aneurysms through transesophageal echocardiography. However, as it is a semi-invasive method with additional costs and potential risks, in many cases transthoracic echocardiography is used as a diagnostic method.

In addition to echocardiography, magnetic resonance imaging and angiography can also be used.

In this case, the diagnosis was suggested by a chest CT scan, performed to investigate an opacity present on the x-ray and confirmed by transthoracic echocardiography.

Surgical resection is indicated when the diagnosis is established, reducing the risks of thromboembolic events and cardiac arrhythmias, the main complications of left atrial appendage aneurysm.⁷

CONCLUSION

This report describes a case of left atrial appendage aneurysm as an accidental finding on a chest x-ray to investigate chronic

cough. Surgery was indicated to resect the aneurysm, with unilateral diaphragmatic paralysis as an expected complication in the postoperative period of thoracic surgery.

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