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Case Report

Giant aneurysm of the left atrial appendage: A case report of a rare cause of dyspnea in a 55-year old woman

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ABSTRACT

Introduction: Congenital aneurysm of the left atrial appendage (LAAA) is a very rare heart with potentially serious and life-threatening complications. Diagnosis is difficult because of the asymptomatic forms, until complications arise. Early surgery is the treatment of choice, but the recommendation today remains unclear.

Case report: We present a case of congenital giant left atrial appendage aneurysm (LAAA), in a 55-year-old, woman, without any medical or surgical history, who presented with dyspnea, in whom transthoracic echocardiograhpy demonstrated the presence of a giant left atrial aneurysm with thickening of the small mitral valve, a chest scan confirmed the diagnosis of LAAA and a myocardial magnetic resonance imaging revealed the presence of thickened mitral valve with bi-valvular balloonization and annular disjunction, thickening of the basal segments of the inferior and lateral wall, left atrial aneurysm with a dilated right coronary artery. Coronary angiography showed a tortuous coronary artery with a loop in the second segment without any significant stenosis. The patient is currently awaiting surgery.

Conclusion: Left atrial appendage aneurysm is a serious illness will likely require years of medical care and follow up in the absence of surgical treatment. The choice and timing of surgical, conservative or catheter treatment always remains a challenge. Our case report shows that medical treatment is a safe approach that will delay or avoid surgery.

1. Introduction

The aneurysm of the left atrial appendage is a rare disease [1]. Most often asymptomatic, incidental discovery during cardiac imaging, but may be responsible for the occurrence of arrhythmia (atrial fibrillation), thromboembolic events or sudden death [2]. The treatment is most often surgical, but conservative treatments or catheter ablation are also described.

The work has been reported in line with the SCARE 2020 criteria [3].

2. Case report

A 55-year-old woman, without medical or surgical history, who presented to the emergency room for recurrent episodes of dyspnea that had progressed for 6 months. Physical examination didn't show signs of heart failure, Electrocardiogram (EKG) showed first degree atrioventricular block and *Trans*-thoracic Echocardiography (TTE) (Fig. 1) (Vid 1) showed a 65/22 mm anechoic image attached to the left atrium (LA) adjacent to the left ventricle (LV) suggesting a giant aneurysm of the left atrium without thrombus or spontaneous contrast echo observed and thickening of the small mitral valve. A chest computed tomographic (CT) scan with injection of the contrast confirmed the presence of the left atrial aneurysm causing mass-effect on the anterior and lateral walls (Fig. 2) and was able to rule out other differential diagnosis. A 48-h holter- EKG monitoring was also performed for arrhythmias recurring in favor of paroxysmal passage into sinus bradycardia, and atrial fibrillation followed by spontaneous recovery of sinus rhythm.

The diagnosis was based finally on data obtained after performing magnetic resonance imaging (MRI) with injection of gadolinium which not only confirmed the presence of the giant auricle aneurysm measuring 67/40mm, but also showed the presence of thickening of

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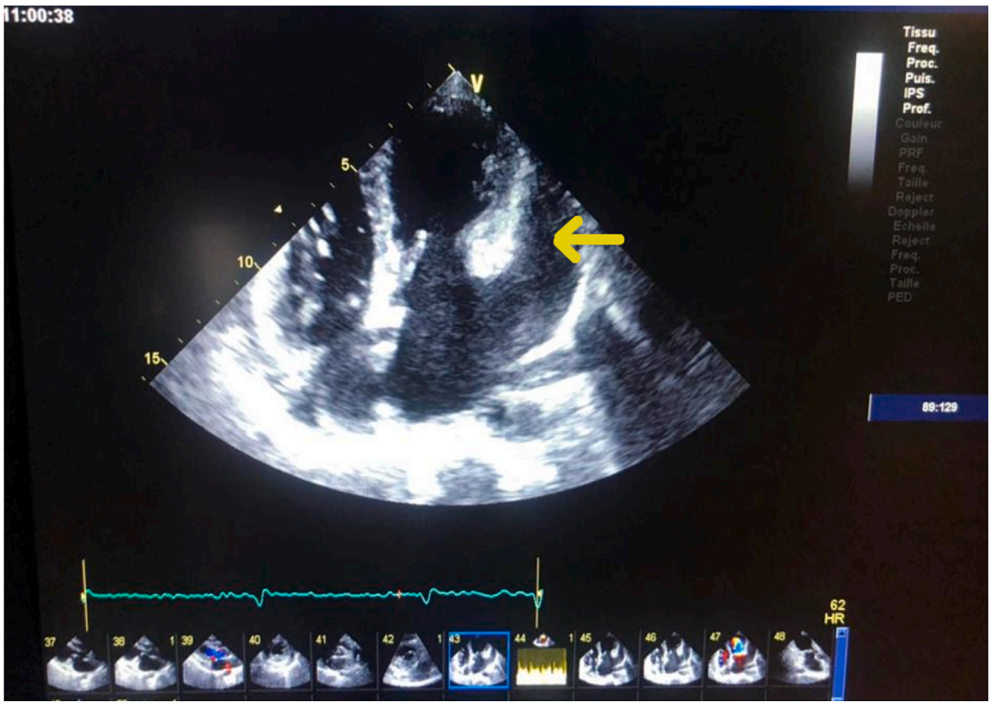

Fig. 1. Apical four chamber view in transthoracique echocardiography showed a left atrial appendage aneurysm.

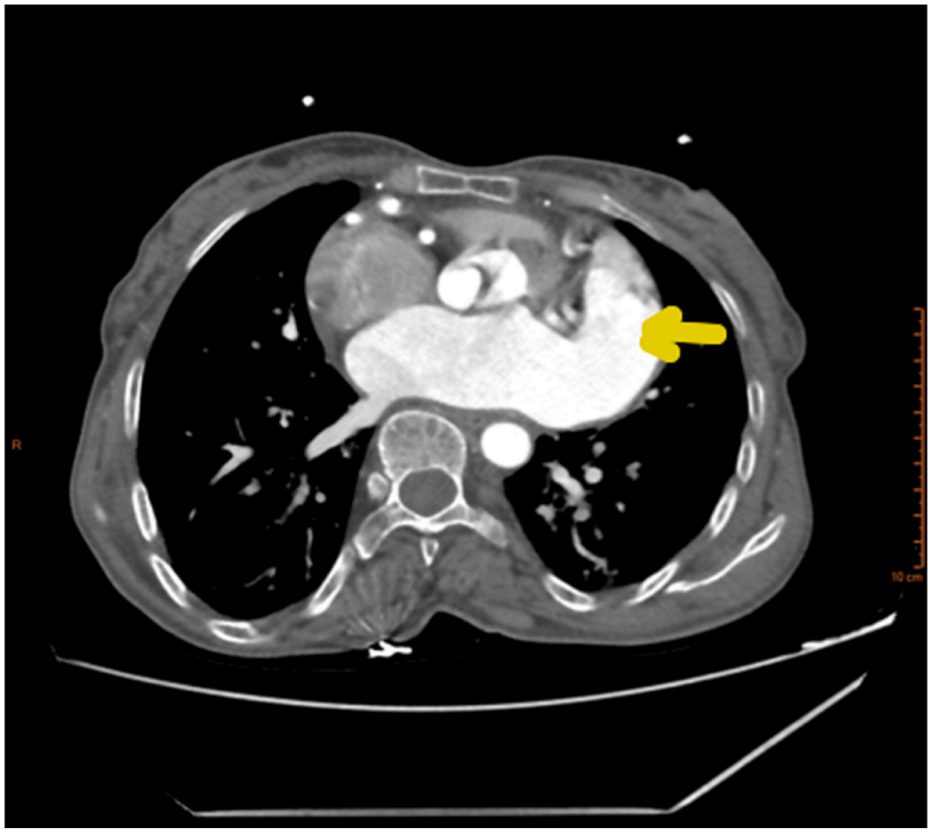

Fig. 2. Axial chest CT with injection of the contrast showed a LAAA.

basal (Fig. 3) (Vid 2) segments of the inferior and lateral walls, reaching 20/23mm in end-diastolic, billowing and thickening of the mitral valve, with 7mm annular disjunction and a coronary artery dilated to 8mm with a very sinuous course. Coronary angiography was performed in this direction showed dystrophic coronary arteries without calcifications (Fig. 4) (Vid 3).

The patient is currently under medical treatment combining a b-blocker, an anticoagulant and a diuretic with frequent follow up,

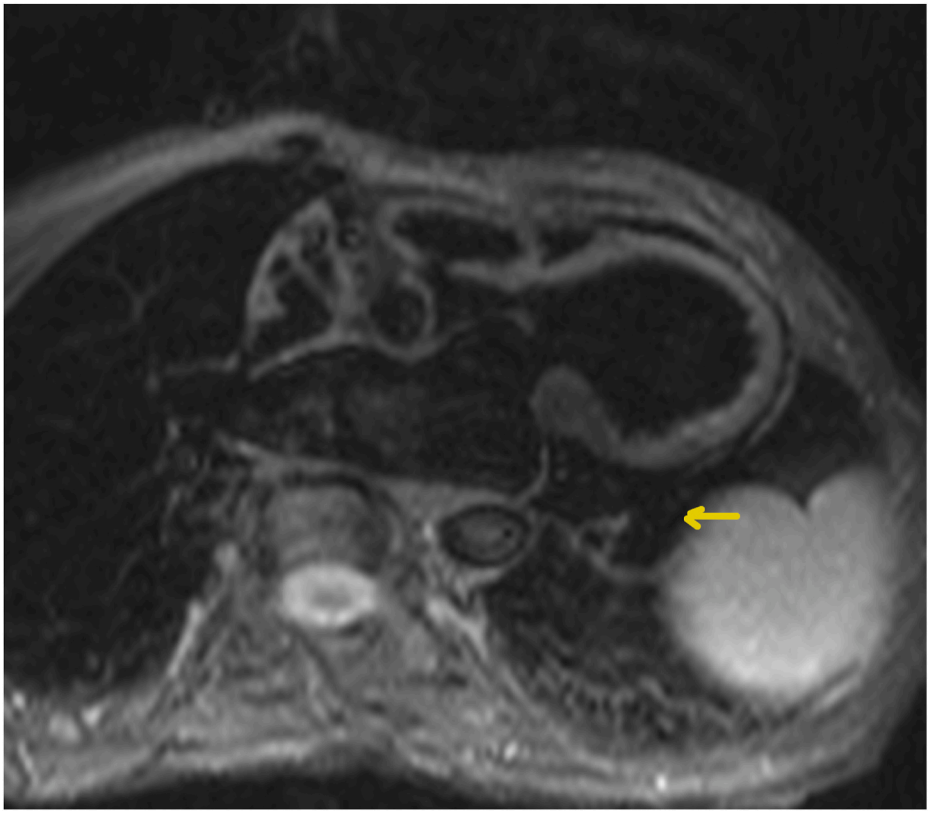

Fig. 3. Axial MRI with injection of the gadolinium of LAAA.

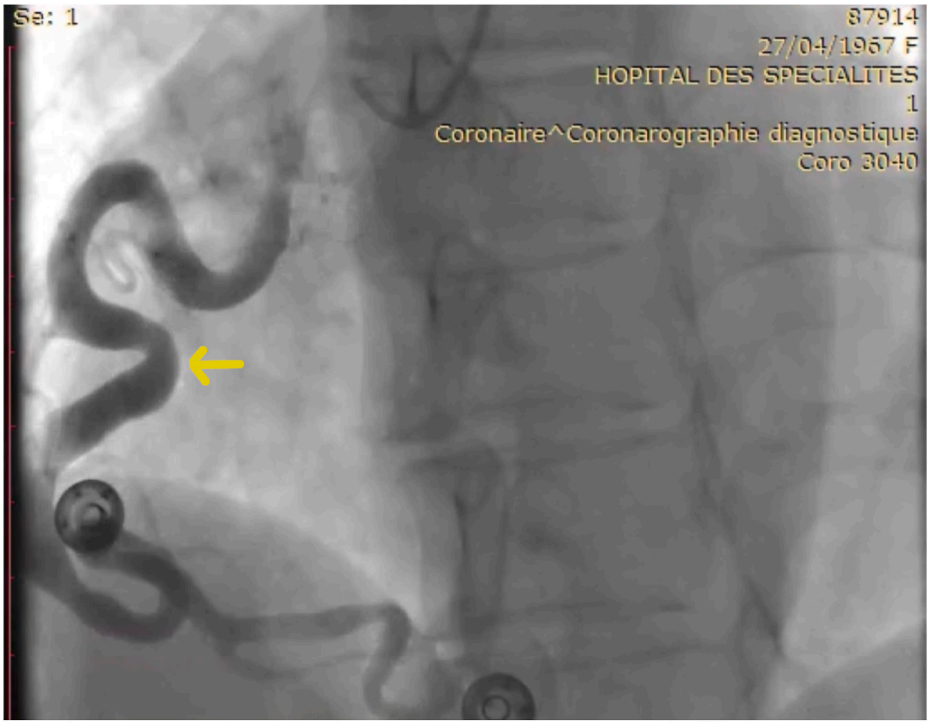

Fig. 4. Coronary angiography showing dystrophic right coronary artery.

waiting for surgery, she is asymptomatic.

Vid 1:
https://www.youtube.com/watch?v=o2oMnf_ANv4.
Apical four chamber view in transthoracique echocardiography showed a left atrial appendage aneurysm without thrombus or spontaneous contrast echo observed and thickening of the small mitral valve.

Vid 2:
https://www.youtube.com/watch?v=H_Y3Ok0mRNs.

Four cavity myocardial MRI with injection of gadolinium showing a giant aneurysm of the left auricle.

Vid 3:

https://www.youtube.com/watch?v=1fjPRPn2sDU.

Coronary angiography showing dystrophic right coronary arteries.

3. Discussion

The left atrial aneurysm (LAAA) is an extremely rare abnormality, that can be congenital (congenital weakness of the atrial wall, resulting from muscle strips dysplasia) or acquired (enlargement of the left auricle resulting from the mitral valve disease) [4]. According to data from the literature, most congenital LAAA were extra pericardiac, linked to a pericardial defect [5]. In our case, his seat was intra pericardial, and cardiac imaging results, especially MRI, showed an intact pericardium. The asymptomatic form is the most frequent, ranging from fetal age to adulthood. The most frequent symptoms are dyspnea, palpitations, thromboembolic evant and sudden death, which makes it a serious disease requiring rapid and adequate management [6].

Diagnosis is based on transthoracic or transesophageal echocardiogram, cardiac CT scan and myocardial MRI, can confirm and can rule out other differential diagnosis such as pericardial cyst and LV aneurysm.

The management of LAA aneurysm is surgical excision even in asymptomatic patients [7]. The three commonly described aneurysmectomy approaches are midline sternotomy, left thoracotomy and mini-thoracotomy [8,9]. Surgical excision has been advised to prevent the occurrence of AF, systemic emboli, or myocardial dysfunction. However, case reports has shown the success of treatment, of paroxysmal AF in the setting of an LAA aneurysm with percutaneous isolation of the pulmonary vein antrum (PVAI) [10] without LAA resection and conservative with appropriate medical traitement and close follow-up.

In our case, we preferred to put the patient on medical treatment while waiting for surgery, the follow-up is reassuring, no clinical signs have been reported for 3 months. This allows us to deduce that conservative treatment can be a safe approach in the presence of a rigorous follow-up and an adapted treatment.

4. Conclusion

Left atrial appendage aneurysm is a rare pathology, the choice and timing of surgical, conservative or catheter treatment always remains a challenge. Our case report shows that medical treatment is a safe approach that will delay or avoid surgery. This serious illness will likely require years of medical care and follow up in the absence of surgical treatment.

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Ethical approval

Obtained.

Consent of the patient

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Author contribution

Dr Kissami Ibtissam; wrote the manuscript and conducted the literature review. Dr Elouazzani ghizlane helped in data collection and analysis, Dr Mehdi El Bekkaoui and Pr Imane Skiker provided imaging data and helped for diagnose, Pr El Ouafi Nouda and Pr Bazid Zakaria; contributed for diagnose, treatment of the patient and supervised the writing of the manuscript.

Research registration

Our paper is a case report; no registration was done for it.

Guarantor

Kissami Ibtissam.

Provenance and peer review

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Declaration of competing interest

None.

Acknowledgment

None.

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