



**ANEURYSM OF THE VALSALVA SINUS SECONDARY TO AN INFECTIOUS
ENDOCARDITIS OF FATAL EVOLUTION: ABOUT A CASE**

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ABSTRACT

Valsalva sinus aneurysm is an uncommon cardiac anomaly. We present the case of a 29-year-old patient hospitalized for an infectious endocarditis on aortic and mitral ploverulopathy complicated by an abscess of the aortic ring. He received antibiotics for six weeks with apyrexia. The biological inflammatory control balance was normal. Cardiac echocardiography revealed an aneurysm of the right anterior valsalva sinus with a collar at 15 mm and a maximum diameter at 39 mm. Chest CT showed aneurysmal and saccular dilation of aortic sinus with a 3 cm collar. Waiting for surgery, the evolution was marked by death by cardiogenic shock.

KEYWORDS: Aneurysm, endocarditis, valsalva sinus.

INTRODUCTION

The Valsalva sinus aneurysm (ASV) is a significant dilation between the wall of the aortic valve and the tubular sino junction.^[1] It is a rare cardiac anomaly that may be congenital or acquired with a frequency of less than 1%.^[2] Infectious endocarditis (IE) is a devastating infection, its spread can be to the valvular structures causing valvular aneurysms, paravalvular abscess^[1] which may occur despite well-conducted antibiotic therapy. We report a case of right anterior valsalva sinus secondary to a mitro aortic endocarditis of unfavorable evolution.

OBSERVATION

A 29-year-old patient was referred to our service for management of heart failure. He had recurrent angina and arthralgia in his childhood. His blood pressure was 110/50 mmHg, heart rate : 75 / min, respiratory rate : 24/min, a temperature (T °): 38, 8°C. The exam revealed aortic and mitral murmurs and cavities of teeth 25 and 43. the biological assessment showed an inflammatory syndrome. Blood cultures were negative. Liver and renal function were normal. The antistreptolysin was raised to 600 IU / L. The syphilitic and HIV serologies were negative. Electrocardiogram showed a regular sinus rhythm at 68 cycles / min, left atrial hypertrophy, left ventricular hypertrophy with secondary repolarization disorder. Chest X-ray showed cardiomegaly and dilation of the pulmonary artery. Transthoracic echocardiography

concluded with aortic and mitral valvular rheumatic disease without ventricular dysfunction., severe pulmonary arterial hypertension. Vegetation was noted on the posterior mitral valve and abscess in the aortic annulus (Figure 1).



Figure 1: Transthoracic echocardiography parasternal left major axis showing the abscess of the aortic annulus and the posterior mitral valve vegetation (arrows).

He received treatment of heart failure associated with dual antibiotic therapy for six weeks with stable apyrexia. The inflammatory control balance was normal.

Doppler echocardiography noted an aneurysm of the right anterior valsalva sinus measuring 39×25 mm in diameter with a collar of 15 mm (Figure 2).



Figure 2: transthoracic echocardiography small axis image showing the aneurysm and its collar (arrow).

There were pre-existing mitro-aortic valve disease with left hypertrophy ventricular. CT angiography showed

aneurysmal and saccular dilation of the aortic sinus with collar of 3mm.



Figure 3: Thoracic CT image of sagittal reconstruction showing the aneurysm and its collar (arrow).

An early surgical repair was proposed unfortunately the patient died while waiting in a cardiogenic shock chart.

DISCUSSION

Valsalva sinus aneurysms are rare and can be either congenital or acquired. whose diagnosis has become easier thanks to the improvement of imaging techniques.^[3] Acquired SOVAs are similarly associated with connective tissue pathologies. Infectious etiologies are well established mechanisms for elastic tissue weakening. Syphilis, bacterial endocarditis, and tuberculosis have each been linked to SOVA formation^[4] our case is probably secondary to infectious endocarditis on aortic valvulopathy. infectious endocarditis often leads to a multi-organ failure including cardiac and septic embol responsible for infarction.^[3] In some cases, it may give rise to aneurysms of the valsalva sinus often associated with a paravalvular abscess.^[5] Our patient first developed an abscess at the level of the ring, which then formed a communication with the aorta, then became aneurysm despite intravenous antibiotic therapy. It occurs more often in the right anterior sinus in the literature.^[2,6] Aneurysm is symptomatic rule in the presence of aortic insufficiency which is the case of our patient. Transthoracic echocardiography (ETT) and transoesophageal echocardiography (ETO) provide a diagnostic accuracy of 80% and 90%, respectively, for the detection of ruptured or unruptured ASV.^[2] Thoracic CT angiography is of vital interest in the diagnosis of ASV, this examination allowed us to see the neck, its relationship with the coronary arteries and to rule out the existence of other abnormalities. Considering the clinical picture of our patient, a double surgical repair was planned (treatment of the ASV) but also a double valve replacement associated with a tricuspid plasty. However, cases of infected ASV (endocarditis or sepsis) have 4-5 times higher perioperative risk of death. Recent series have estimated a survival of 5 and 10 years after correction of the aneurysm by 97%.^[7] Therefore, early surgery should be encouraged especially if ASV coexists with IE. Our patient was waiting for surgery, but the course was marked by a death after readmission in a cardiogenic shock panel.

CONCLUSION

The valsalva sinus aneurysm is a rare complication of infectious endocarditis. Transthoracic echocardiography and CT angiography are an important tool for diagnosis. Surgical repair must be early to avoid the risk of rupture due to this condition.

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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