

A Giant Pseudo Aneurysm Of The Left Ventricle Revealed By Hematemesis.

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Citation

P Toure, A Leye, M Diop, Y Leye, M Leye, Y Mahamat, N Ndiaye, A Dia, A Phiri, C Tall, M Diop, S Elfajri, M Ka. *A Giant Pseudo Aneurysm Of The Left Ventricle Revealed By Hematemesis.* The Internet Journal of Thoracic and Cardiovascular Surgery. 2012 Volume 15 Number 2.

Abstract

A pseudo aneurysm due to the rupture of myocardium can occur after trauma, infarction, cardiac surgery or bacterial endocarditis. This false aneurysm has a high morbidity, a risk of spontaneous rupture and sudden death. We report a case of a left ventricular pseudo aneurysm in a 14-year-old male patient with past medical history of chest blunt trauma associated with a distal lower humerus fracture treated in 2005. He was admitted for moderate hematemesis associated with left upper quadrant and flank pain and dyspnea on exertion. The physical examination revealed a tender mass extending from the epigastrium to the left flank. Gastro esophageal duodenal endoscopy revealed a bleeding ulcer Forrest class IIb in the posterior wall of the fundus. The aneurysm first seen in the CT scan was confirmed by MRI which displayed the presence of a pseudo aneurysm of the left ventricle ruptured in the apex in a loculated pericardium. As soon as the diagnosis of left ventricle pseudo aneurysm was confirmed, the patient was sent to the cardiovascular surgery department where he underwent aneurysmectomy under extracorporeal circulation. The postoperative course was characterized by a hemodynamic instability. He died two days later of cardiogenic shock. In the face of any chest trauma even blunt trauma, an exploration by echocardiography or chest CT scan is desirable to detect this complication in time in order to improving the prognosis of patients with large and complicated aneurysms.

INTRODUCTION

Aneurysmal disease of the left ventricle (LV) is in most cases of ischemic origin [1], nevertheless, the traumatic etiology, although rare, should be suspected in a particular context. We report a case of a patient with a pseudo aneurysm of the LV discovered in the setting of left flank mass revealed by hematemesis.

CASE REPORT

A 14-year-old male patient was admitted to the emergency department for hematemesis of average amount. The history-taking noted a left upper quadrant pain, heaviness and tingling lasting for five months without anything that triggers or alleviates it. The pain radiated to the umbilicus, with feeling of stomach fullness disturbing food intake. The patient reported the appearance of a secondary mass on the left side about a month ago in a context of dyspnea on exertion progressively worsening. There was no diarrhea, constipation nor fever. In his past medical history, there was a blunt trauma of the chest with a fracture of the distal

humerus operated in 2005 following a fall from a tree.

On examination, the patient had a blood pressure of 120/70 mmHg, a respiratory rate of 28 breaths per minute, a heart rate of 124 beats per minute, a temperature of 37.2 °C and a weight of 48 kgs for a height of 1.62 meter hence a BMI of 18.18kg/m². There was a deformity of the left lower thoracic base and left upper quadrant in connection with a regular tender mass of firm consistency extending from the epigastrium to the left flank, dipping below the left rib cage. There was no hepatomegaly, the cardiac auscultation revealed systolic murmur of mitral origin.

Laboratory results showed in the whole blood count a hypochromic microcytic anemia with hemoglobin at 6.5g / dL, white blood cells count was 10700/mm³ of which 8300 are neutrophils, platelets at 388000/mm³; prothrombin time at 11.2 seconds. C reactive protein was elevated at 48 mg / L. Hepatitis B and C serologies were negative.

An upper endoscopy performed 24 hours following

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transfusion of three units red packed cells showed an incomplete unfolding of the anterior body of the stomach in insufflation with extrinsic compression and revealed a rounded bleeding ulcer of the posterior fundus of 8 mm Forrest class IIb. Histology revealed acute erosive gastritis with no feature of malignancy and no bacteria was identified. A treatment with Esomeprazole 40 mg daily started after upper endoscopy was then continued. The Chest x-ray showed cardiomegaly with a cardiothoracic ratio of 0.6. The electrocardiogram showed a sinus tachycardia with diffuse repolarization disorder of epicardial ischemia.

The CT scan showed a rounded heterogeneous formation of 130 mm diameter with regular outlines located at the left upper quadrant. The injection of contrast dye revealed a channel running in the center of the lesion which is enhanced intensely during bolus arterial injection time suggesting an aneurysm. In an MRI coronal section centered on the chest at T1, showed a black blood image the presence of a pseudo aneurysm of the LV measuring 118 mm x 185.6 mm with a rupture of the apex in a loculated pericardium. The pericardial sac contained hyper signal clots (Figures 2 and 3). The doppler echocardiography showed an aneurysm of the LV with an estimated ejection fraction of 30%.

Due to the confirmed diagnosis of LV pseudo aneurysm, the indication of surgical treatment was decided. The patient was send to the cardiovascular surgery department where he underwent aneurysmectomy under extracorporeal circulation. The postoperative course was marked at day one postoperatively by a hemodynamic instability with a drop of blood pressure to 65/39 mmHg and LV dysfunction, requiring a continuous infusion of adrenaline and dobutamine. He died two days later, in a state of cardiogenic shock.

Figure 1

: Coronal section centered on the thorax in T1-weighted black blood: break the apex of the left ventricle (white arrow) in partitioned pericardium. The pericardial sac contains clot signal intensity (black arrow).

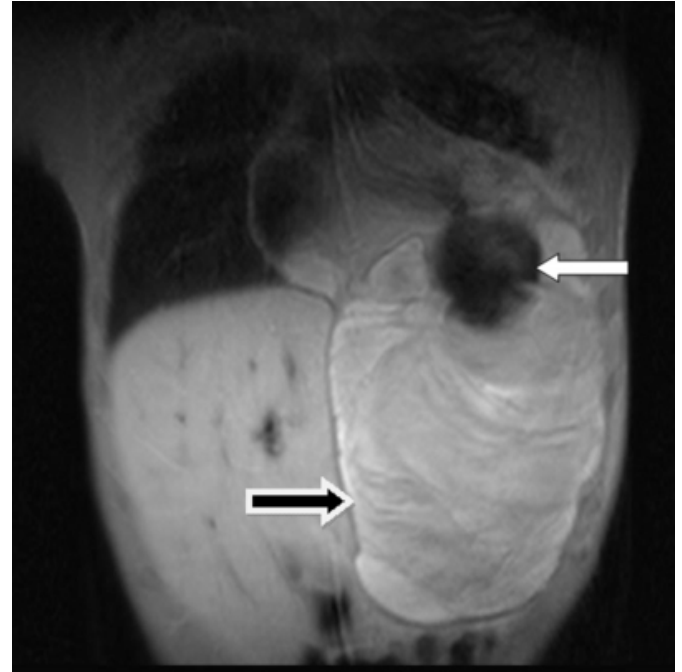
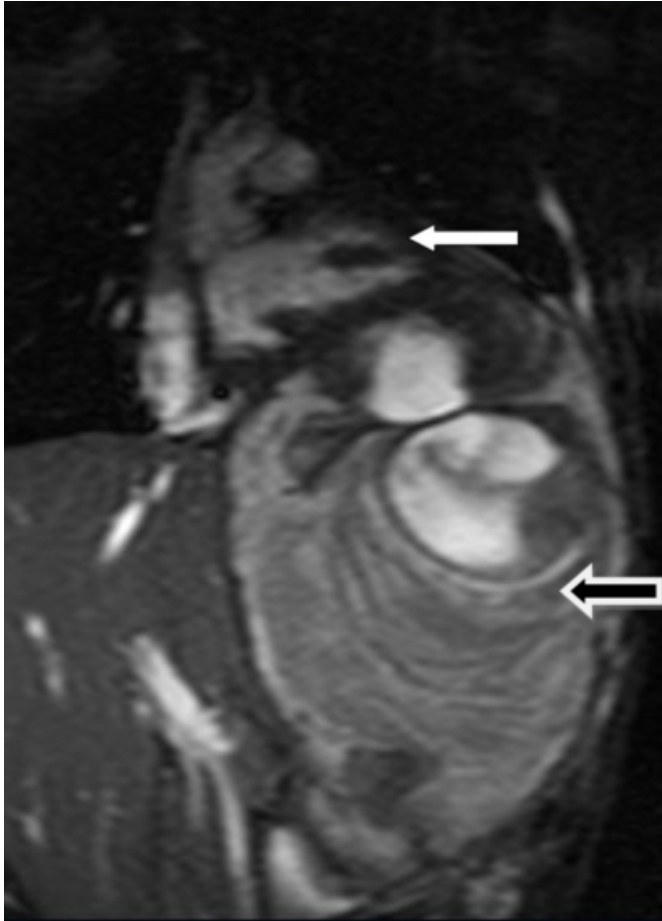


Figure 2

: Coronal section centered on the thorax with a dynamic sequence in “white blood”: the left ventricle (white arrow) pushed by the pericardial sac filled with clot (black arrow) growing intra-abdominally.



DISCUSSION

This left flank mass presenting with hematemesis made us think first of all of esophageal varice rupture, associated with splenomegaly and portal hypertension complicating chronic liver disease. Other causes of portal hypertension in tropical area like chronic malaria or a chronic myeloid leukemia may explain the clinical presentation. However, the biological markers did not suggest these diseases.

LV aneurysm is most often the result of a myocardial infarction, usually involving the anterior wall. A left ventricular pseudo aneurysm or false aneurysm forms when cardiac rupture is contained by adherent pericardium or scar tissue [2].

It is sometimes very difficult to tell the difference between a pseudo aneurysms of the left ventricle and a true aneurysm. Given the propensity of the pseudo aneurysm to rupture leading to tamponade and sudden death, compared with a

more benign natural history of true aneurysms [3]. An accurate clinical diagnosis is important [4]. Clinical symptoms, results of physical examination, electrocardiograms, and routine x-rays are not sensitive or specific for the diagnosis of neither LV aneurysm nor distinguishing the true from the false aneurysm.

In our case, the MRI showed an apical rupture in a partitioned pericardium, suggesting a pseudo aneurysm. In our patient the past medical history of chest blunt trauma of in 2005 is a good case for a post blunt trauma origin. The pathogenesis is attributed to the remodeling of myocardial scars secondary to trans myocardial contusion [5].

The bleeding ulcer was the circumstance of discovery of the aneurysm but does not seem to be directly related to it as a complication given its location in the posterior wall of the fundus.

The false left ventricular aneurysms may stay asymptomatic for a long time. A heart failure may appear up to fifteen years after the initial trauma [6]. Thrombosis of the aneurysm sac as in our patient and ventricular arrhythmias are potential complications of these lesions. A surgical removal of the thrombosis associated with ventricular repair is required once the diagnosis established even in asymptomatic patients [7]. In our case, six years elapsed between the trauma and the discovery of the false circulating aneurysm. The evolution was fatal, in part related to the technical equipment and postoperative care in our working conditions.

CONCLUSION

The LV pseudo aneurysm is rare and usually visualized on echocardiography. In difficult cases, CT scan and MRI are extra undeniable contributions to positive diagnosis and preoperative evaluation especially. In face of any chest trauma, even blunt trauma, an investigation by an echocardiogram or a chest CT scan is desirable to detect this complication in time and then improve the prognosis of patients with large and complicated aneurysms.

References

1. Ben Omrane S, Zribi H, Rjeb M A, Denguir R, Kalfat T, Khayati A. Faux anévrisme du ventricule gauche après un traumatisme fermé du thorax (à propos d'un cas). *Ann Cardiol Angéiol* 2008 ; 57 : 231-233
2. Yavuzgil O, Gurgun C, Apaydin A, Cinar C S, Yuksel A, Kultursay H. A giant inferoposterior true aneurysm of the left ventricle mimicking a pseudo aneurysm. *Int J Cardiovasc Imaging* 2006 ; 22 : 205-212
3. Frances C, Romero A, Grady D. Left ventricular pseudo aneurysm. *J Am Coll Cardiol* 1998 ; 3 (32) : 557-61

4. Cho Michael N, Mehta Sameer K, Matulevicius S, Weinstein D, Wait Michael A, McGuire K. Differentiating true versus pseudo left ventricular aneurysm: a case report and review of diagnostic strategies. *Cardiology in Review* 2006 ; 14 (6) : 27-30

5. Elbehery S, Barrea C, Sluysmans T. Traumatic left ventricular true aneurysm: echocardiographic, MRI, and intraoperative images. *Heart* 2006 ; 92 : 726

6. Guihaire J, Verhoye J P, Flecher E, Leguerrier A. Faux-anévrismes du ventricule gauche après vidéothoroscopie : à propos d'un cas. *Chirurgie Thoracique Cardio-Vasculaire* 2009 ; 13 : 120-123

7. Ngouma-Kibodi A, Dilou Bassemouka L, Ekoba J, Makosso E, Kimbally G, Nkoua J L. Anévrisme calcifié du ventricule gauche : Apport de l'imagerie à Brazzaville. *Ann Univ M Ngouabi*, 2008 ; 9-10 (5) : 10-14

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