



Cas Clinique

Acute Aortic Dissection in Brazzaville: a Report of Four Cases

Dissection aortique aiguë à Brazzaville, à propos de quatre cas

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Keywords : Acute aortic dissection, Brazzaville.

Mots clés : Dissection aortique aigue, Brazzaville.

ABSTRACT

Acute aortic dissection type A of Stanford, is considered even in the most developed countries, as one of the worst events that the human vascular network can experience. Vital prognosis will be affected by one of these conditions : acute cardiac tamponade, severe aortic insufficiency, and multivisceral ischemia syndrome. In many sub saharan countries, tertiary facilities do not have suitable surgical cardiac department for treating these patients. We describe four cases of acute aortic dissection type A, whom were managed in Brazzaville teaching hospital, with vital prognosis engaged.

RÉSUMÉ

La dissection aortique type A de Stanford, est considérée même dans les pays développés comme une des pires catastrophes que peut connaître le réseau vasculaire chez l'homme. Le plus souvent, le pronostic vital est engagé dans ces trois situations : La tamponnade cardiaque, l'insuffisance aortique sévère, et l'existence des malperfusions viscérales. Dans la majorité de pays au sud du Sahara, les centres hospitaliers universitaires ne disposent pas de service de chirurgie cardiovasculaire fonctionnel, pour traiter ces patients. Nous rapportons quatre cas de dissection aortique type A de Stanford, lesquels ont été traités médicalement au Centre Hospitalier Universitaire de Brazzaville, avec pronostic vital presque à 100% engagé.

INTRODUCTION

Acute aortic dissection is defined as a longitudinal cleavage of the aortic media between its inner two thirds and its outer third over more than one centimeter. The light of the aorta communicates with the disseized media by an intimal entrance door. Its formerly low prevalence in africa is increasing in line the acquisition and improvement of diagnostic tools [1].

Bouramoue et al, in their study about aortic dissection in black patients at Brazzaville teaching hospital, had reported hospital prevalence of 5.4/10.000 [2]. In their description, among six patients diagnosed with aortic dissection, only two had undergone heart surgery abroad, and the four remaining patients died by cardiac tamponade or severe aortic regurgitation.

The clinically suspicion of diagnosis is based mainly on medical imaging, especially echocardiography and thoracic CT angiography. However, this is a medical and surgical emergency that is difficult to manage in countries with a limited surgical platform.

Currently, surgical theaters of Brazzaville University teaching hospital do not have necessary equipment to perform open heart surgery. Therefore, all patients who

require this kind of surgery have a dim prognosis. The aim of this study is to present our difficulties to manage patients with acute aortic dissection.

OBSERVATIONS

Between June 2016 and February 2021, four patients were hospitalized for acute aortic dissection among 585 hospitalized patients, giving a hospital frequency of 0.68%.

Case 1

A 59 year-old man, was admitted for acute chest pain. He was hypertensive under treatment. He was 1.72 m tall for a weight of 96 kg, then a body mass index of 32.5 Kg/m².

Physical exam at admission revealed, high blood pressure at 175/95 mm Hg, heart rate 75 bpm, respiratory rate at 24 cycles per minute, and oxygen saturation in ambient air at 96 %.

Cardiac auscultation revealed aortic regurgitation murmur. Right basal pulmonary condensation was found on pleuropulmonary examination, as well as liver pain without hepatomegaly. X-ray chest showed an enlargement of mediastinum, and right basal interstitial syndrome. Echocardiography found dilatation of

ascending aorta, presence of intimal flap moderate to severe aortic regurgitation. There was no bicuspidy or left ventricular dysfunction. Thoracic CT angiography showed aortic dissection type A of Stanford (figure 1).

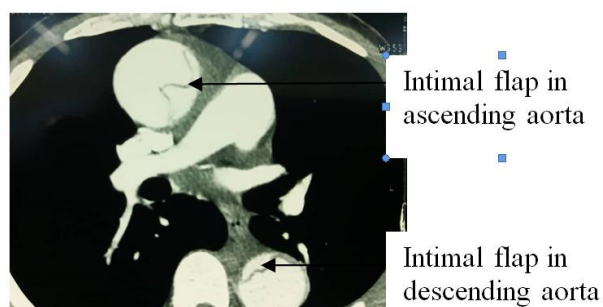


Figure 1 : view of ascending and descending aorta flap

Parenteral antihypertensive drugs were administered as well as sedatives, analgesics and stomach protection. He died 72 hours after his admission.

Case 2

A 53 year-old man was referred by a cardiologist for the management of an acute aortic dissection, that was discovered on thoracic CT angiography done for acute chest pain. The symptomatology dated back to ten days before its admission. It started with sudden occurrence of chest pain during physical activity. Physical exam at admission showed that he was 1.62 m tall for a weight of 85 Kg, then a body mass index of 32.4 Kg/m². There was high blood pressure at 180/10 mm Hg, heart rate 85 bpm, respiratory rate at 30 cycles per minute, and oxygen saturation in ambient air at 97 %.

Cardiac auscultation revealed aortic regurgitation murmur. X-ray chest showed an enlargement of mediastinum. Echocardiography revealed dilatation of ascending aorta, presence of intimal flap, and severe aortic regurgitation. There was no bicuspidy. Diagnosis was acute aortic dissection type A of Stanford. Medical therapy was the same as the first case as well as the issue.

Case 3

A 48 year-old man, was admitted for acute chest pain. He was hypertensive under treatment. He was 1.82 m tall for a weight of 86 Kg, then a body mass index of 26 Kg/m². Physical exam at admission revealed, high blood pressure at 195/110 mm Hg, heart rate 80 bpm, respiratory rate at 18 cycles per minute.

Cardiac auscultation revealed aortic regurgitation murmur. Right basal pulmonary condensation was found on pleuropulmonary examination as well as liver pain, but no enlargement. X-ray chest showed an enlargement of mediastinum (figure 2), and right basal interstitial syndrome. Echocardiography revealed, dilatation of ascending aorta, presence of moderate intimal flap, concentric hypertrophy of the left ventricle and moderate pericardial detachment. There was no bicuspidy, or left ventricular dysfunction. Thoracic CT angiography allowed to objectify aortic dissection type A of Stanford with hemopericardium complication. Medical treatment

was started and resuscitation measures. He died 10 hours after admission.

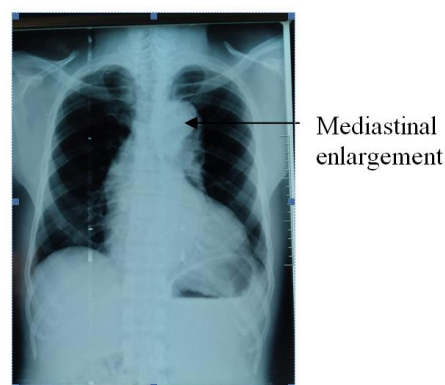


Figure 2 : preoperative chest -x ray

Case 4

This was the case of a 55 year-old man, hypertensive for about fifteen years and irregularly monitored. In the medical history, the onset was six hours before arrival, with severe precordial pain, waking up the patient, radiating to the back and loins, with no calming medication. On physical exam at admission, he was 1.62 m tall with a weight of 96 Kg, then a body mass index of 36.6 Kg/m². There was high blood pressure at 200/100 mm Hg, heart rate 85 bpm, respiratory rate at 30 cycles per minute, and oxygen saturation in ambient air at 96%.

Cardiac auscultation found aortic regurgitation murmur. X-ray chest showed an enlargement of mediastinum. Echocardiography revealed dilatation of ascending aorta at 44 mm, presence of intimal flap and severe aortic regurgitation. There was no bicuspidy. Diagnosis was acute aortic dissection type A of Stanford extending from the origin of the aorta to below the renal arteries, with bilateral renal thrombosis (figure 3). Patient was treated at admission with parenteral antihypertensive drugs. This patient passed away after one week, due to cardiac tamponade.

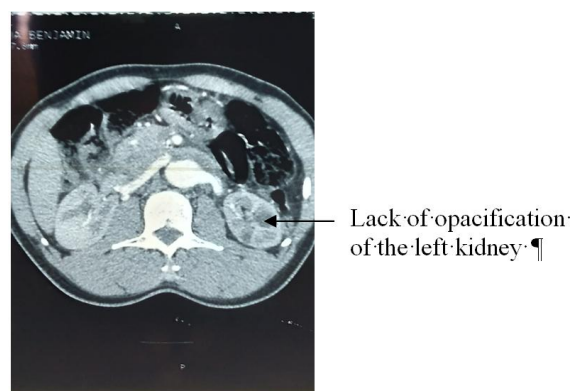


Figure 3 : View of lack of opacification of kidneys.

DISCUSSION

Since long time it has been considered as disease of developed countries because, many studies in the literature about this topic are from western countries [3,4]. But, we thought, this consideration was wrong, by lack of modern imagery as chest CT angiography, or Resonance magnetic imagery.

Diagnosis of acute aortic dissection necessitates hence modern imagery condition, this is a primary step to emergency therapy because, it's a life-threatening situation. Once diagnose, and the Stanford type A has been confirmed ; emergency surgical treatment will take place [5].

Therapeutic strategies may depend on anatomic, lesions ; if coronary arteries, aortic valve are involved or not, also the condition supraaortic trunks, the existence cardiac tamponade, and general condition of patient.

In our reality in Brazzaville teaching hospital, we do not actually have an operational surgical cardiac unit. This mean, each diagnose acute aortic dissection may lead to death. In this study, all four patients are dead because, only medical therapy was applied, without any temptation to salvage by surgical option.

Prognosis is almost worst in our situation ; patients can't get through the first 48 hours, if cardiac tamponade is present. We think that, there is necessity to build and equip a modern surgical cardiac department in our teaching hospital.

CONCLUSION

Acute aortic dissection type A of Stanford remains the most great challenge in sub saharan developing countries, where mortality is near 100% without surgical intervention on time.

CONFLICT OF INTEREST

Authors declare that there is no conflict of interest.

Acknowledgements : Special thanks to Mr Siffrein Kouetolo.

AUTHORS CONTRIBUTIONS

SH Moumpala : Wrote Introduction.

R Atipo-galloye, BT Ossere, Sylvain Ngounda : Wrote Cases reports, and conclusion.

R Sayah, Rida Ajjaja : Wrote Discussion, and abstract.

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