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Giant Aneurysm of the Aortic Arch: A Case Report

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ABSTRACT

Aortic aneurysm is a relatively rare condition. It corresponds to a localized expansion with loss of parallelism of the edges. Aneurysm is most often acquired with various etiologies (dystrophic, atheromatous, inflammatory, even infectious). Their frequency of discovery tends to increase due to the development of explorations aimed at performing non invasive diagnostics, and the aging of the population. We report the case of a 38 year old male patient with no known pathological history who consults for cough, dyspnea. Lung radiography shows cardiomegaly and left mediastinal enlargement. Trans thoracic cardiac ultrasound objectifies aortic leakage and pericardial effusion. The angio scanner reveals a giant sacciform aneurysm of the arch of the aorta butt downstream of the emergence of the left subclavian artery associated with a periarortic hematoma. The extension check and the etiological research reveal a syphilis infection.

Keywords: Aneurysm, Chest Aorta, Young, Mopti (Mali)

INTRODUCTION

In countries with limited and intermediate resources, the epidemiological and nutritional transition leads to an explosion of cardiovascular disease [1,2]. The means of early diagnosis and care are lacking in those countries where they are concentrated in the remote capital of the 2nd reference structures posing a problem of geographical and financial accessibility [3]. Thus, these pathologies are seen at the stage of complications, which adds to their difficulty in managing them. We present a case of thoracic aorta aneurysm in a 38 years old male who presented with dysphonia, dyspnea, chest pain.

CASE DESCRIPTION

A male patient aged 38 years without a known cardiovascular history. He was received in consultation for chronic cough, hemoptysis, dyspnea, dysphonia, chest pain. The physical examination had recovered a 105 BPM tachycardia, 130/90 mm Hg pressure with 2 arms, and glowing and sizeable rails in the 2 lung fields. On the basis of these symptoms, admission was proposed. The pulmonary radiography showed cardiomegaly (Figure1) with left mediastinal enlargement with a net external contour, exerting a slight mass effect on the trachea and the carene. The thoracic angio scanner found a giant sacciform aneurysm of the aorta butt downstream of the emergence of the left subclavian artery associated with a periaortic hematoma. This aneurysm creates a mass effect on neighboring organs such as the pulmonary arterial stem, the left

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pulmonary artery, the left stem bronche, the trachea, the left upper pulmonary lobe. All of these were associated with anterosuperior pericardial effusion confers (Figure 2 and 3). The electrocardiogram revealed a sinus rhythm with a left axis and repolarization disorder, while cardiac ultrasound showed minimal aortic leakage, 58.21% left ventricle systolic function, and low pericardial effusion. Hemogram showed hypochrome normocyte anemia (Hb= 11.0 g/dL, VGM=81.5 fl, CCMH=29.4) with accelerated sedimentation (VS=98 mm and 110 mm). Leucocytosis (11,7.103/mm3) Monocyte (1,83.103/mm3) and thrombocytosis (Platelets=505.103/mm3). The biochemical balance was normal glucose (0.78g/L), creatinine (0.97mg/dL) and uric acid (6 mg/dL). The infectious balance revealed Syphilis. The lipid tests were normal and therapy was essentially medical. The patient was put on beta-blocker, painkillers, antibiotics and absolute rest. This management made it possible to obtain an improvement in the pain symptomatology after a week of hospitalization. In the absence of the technical platform and cardiovascular surgery at our level, he was referred for better care.

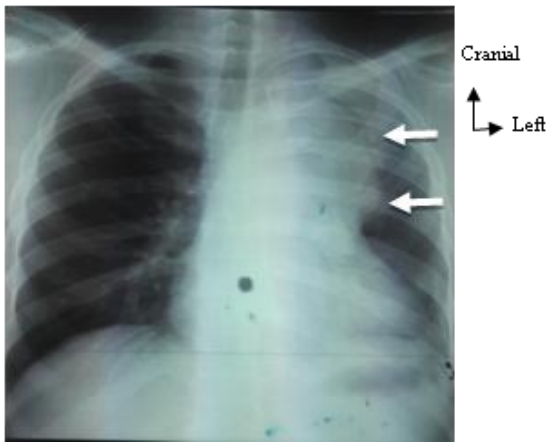

Figure 1: Front chest X-ray showing a left mediastinal enlargement (arrows) and cardiomegaly

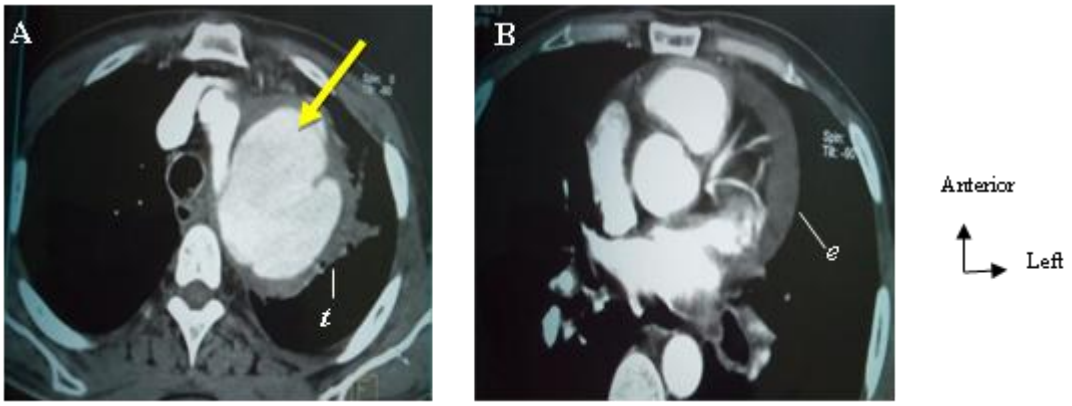

Figure 2: CT angiography, axial sections showing a sacciform aneurysm of the aortic arch (arrow) with wall thrombosis (*t*) (A) and a pericardial effusion (*e*) (B)

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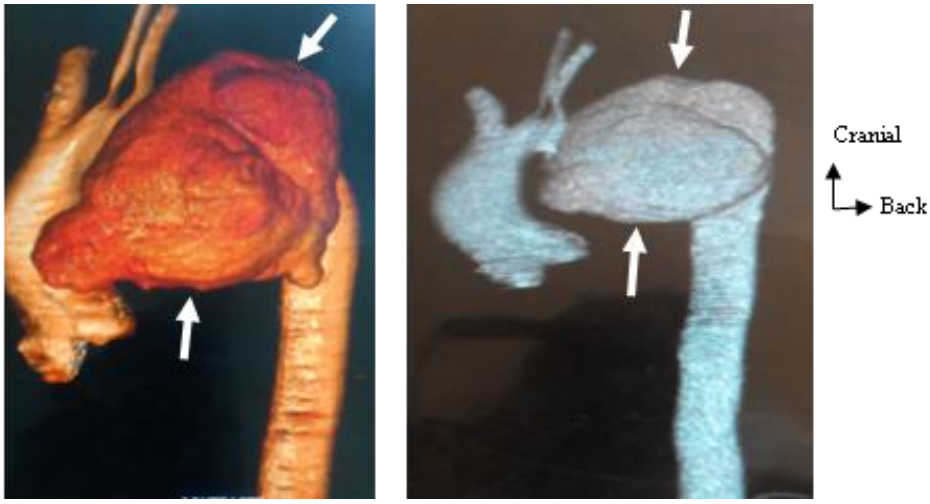

Figure 3: 3D reconstructions in side view showing the aortic arch's giant aneurysm downstream of the subclavian artery's emergence

DISCUSSION

Thoracic aortic aneurysms are rare and can remain asymptomatic for a long time [4] as in our case. The natural evolution of the thoracic aortic aneurysm is a localized expansion of the artery by more than 50% compared to the normal diameter, with a loss of the parallelism of its sack-shaped edges (Sacciform Aneurysm) or spindle-shaped aneurysm [6]. The frequency varies between 2.5 and 3.4% depending on the series [7,8]. The male prevalence of aneury sickness is clear with a percentage between 70 and 90%, usually occurring in the elderly [9]. The most common etiologies are: atherosclerosis, dystrophies of elastic tissue and trauma [7,10,11]. The other etiologies (inflammatory and infectious) are second [7]. The circumstances of discovery are variable, most often asymptomatic, sometimes revealed by signs of compression of neighborhood organs through the following clinical manifestations: chest pain, mediastinal compression syndrome, tracheo-bronchial compression, recurrent compression [12-14], compression of the sympathetic thoracic nerve with Claude Bernard Horner's syndrome. Diagnosis can be made late through complications such as cracking, systemic embolism or rupture [15]. Medical imaging has contributed significantly to the diagnosis and management of aortic aneurysms in recent years. Syphilitic aortitis is the most common cardiovascular disease in tertiary syphilis [16]. It has become rare today due to the development of antibiotics and programs to combat sexually transmitted diseases. It is due to a migration of spirochetes to the media through the lymphatics of the vascular wall soon after the primary infection. These lymphatics are more frequent in the ascending and horizontal aorta, which explains the preferential location of aortic aneurysms at their levels. It is followed by vasa vasorum vasculitis leading to intimal hyperplasia and obliterations of the vascular lumen with development of peri arteritis and endarteritis, responsible for necrosis in the media with destruction of elastic fibers and installation of fibrosis. The aortic wall thus weakened subjected to the high pressure regime which prevails in the aorta, will gradually dilate with the formation of an aneurysm, most often sacciform [16,17]. The development of these aneurysms is observed during the tertiary phase of the disease, 10 to 40 years after the primary infection. The diagnosis is made most often through signs of compression of the neighboring organs as in our case. The peculiarity of our observation is the giant nature of aneurysm with complications in a young patient. If the diagnosis can be made in our context, the care still presents difficulties because the surgery is not available or is out of reach of the vast majority of our patients, our case has been referred to a specialized center for a better.

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CONCLUSION

Pathologies of the aorta continue to be under diagnosed, despite the evolution of medicine and are not uncommon in the young subject as demonstrated by our case. The management of these pathologies continues to be a challenge, especially in our context, where the therapeutic means are not within the reach of the population.

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