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Case report

Aneurysm and dissection in a patient with syphilitic aortitis

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ABSTRACT

In the antibiotic era, aortic aneurysm is a rare complication of syphilis, what makes the diagnostic assumption even more difficult. Nonetheless, this condition should be suspected in patients with aortic aneurysm. Reports of aortic dissection complicating syphilitic aortitis have been distinctly rare in the literature, and their cause-effect relationship has not been definitely established. In this case report, we present a 62-year-old woman with aortic aneurysm and dissection associated with an unexpected diagnosis of syphilitic aortitis.

Introduction

Nowadays, aortic aneurysm is a rare complication of syphilis, what makes the diagnostic assumption even more difficult. Nonetheless, this condition can develop and should be suspected in patients with aortic aneurysm. In the antibiotic era, the incidence of late manifestations of syphilis has dramatically declined. Before the discovery of penicillin, tertiary syphilis was the most common cause of thoracic aortic aneurysm, resulting in 5–10% of cardiovascular deaths.[1]

Reports of aortic dissection complicating syphilitic aortitis have been distinctly rare in the literature,[2–7] and their cause–effect relationship has not been definitely established. While it has been proposed that the transverse scars caused by *Treponema pallidum* infection tight up the layers of the aorta and protect the aorta from dissection, the deposition of mucopolysaccharide in the place of collagen, typical of active syphilitic aortitis, might actually lead to the opposite.[3] In this case report, we present a 62-year-old woman with aortic aneurysm and dissection associated with an unexpected diagnosis of syphilitic aortitis.

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Case report

A 62-year-old woman presented to the emergency department with a history of chest pain with dorsal irradiation that began one week before, followed by subsequent episodes of lesser intensity. Past medical history included hypertension, diabetes mellitus, active smoking (50 packs/year) and grade 2 obesity. Physical examination showed no significant abnormalities on admission. Electrocardiogram evidenced signs of atrial and ventricular overload, secondary repolarization changes and no signs of ischemia. Laboratory evaluation revealed leukocytosis without bandemia (14,700 cells/mm^3), troponin within normal limits, C-reactive protein (CRP) 275 mg/L (reference: ≤5 mg/L) and erythrocyte sedimentation rate (ESR) 113 mm (reference: 0–20 mm), with no other changes. The chest X-ray showed an increased cardiac area (Fig. 1A).

A contrast-enhanced chest computed tomography (CT) was performed (Fig. 1B–D) and identified a Stanford type A aortic dissection extending to the level proximal to the brachiocephalic trunk. The aorta was dilated (maximum transverse diameter of 6.6 cm) and two regions of intimal rupture, both in the distal ascending aorta, were identified. The patient was kept on continuous monitoring in the Intensive Care Unity, aiming to achieve a strict control of blood pressure and heart rate. Syphilis serology was requested, despite the low probability of syphilitic aortitis, revealing negative VDRL and positive fluorescent treponemal antibody-absorption (FTA-ABS) test. The patient denied a previous diagnosis of syphilis or prior treatment for this condition.

Echocardiogram showed mildly increased left atrial volume (41 mL/m^2; reference: ≤34 mL/m^2), normal left ventricular diameters, concentric hypertrophy (septum/posterior wall diastolic thickness 13/11 mm) and a borderline global systolic function (ejection fraction 53%), without segmental variation. In addition, it also displayed mild aortic regurgitation, ascending aorta dilatation above the sinotubular junction (41 mm), and mild to moderate anterior pericardial effusion (10 mm thick) without signs suggestive of increased intrapericardial pressure.

Aortic aneurysmectomy and tube graft interposition was performed. Cinecoronariography carried out before surgery revealed no significant coronary stenosis. Surprisingly, anatomopathological examination of the resected aorta showed acute and chronic inflammation of the artery wall, with necrotic foci and degeneration of the middle layer, typical of syphilitic arteritis (Figs. 2–5). The patient had a good postoperative evolution. Treatment for tertiary syphilis was prescribed with benzathine penicillin G 2.4 million units once weekly for three weeks. Lumbar puncture before treatment showed no central nervous system involvement.

Discussion

In this case report, an unexpected diagnosis of syphilitic aortitis was performed based on anatomopathological findings and serology. Aortitis is one of the many possible lesions caused by tertiary syphilis. Between all the cardiovascular lesions, aorta injury is the most common. Despite the rarity of the disease, it still exists.[8] Nevertheless, tertiary syphilis usually presents within several years to decades after the initiation of latency, but is rare today due to curative antibiotic treatment given for early syphilis or coincidentally for unrelated infections.[9]

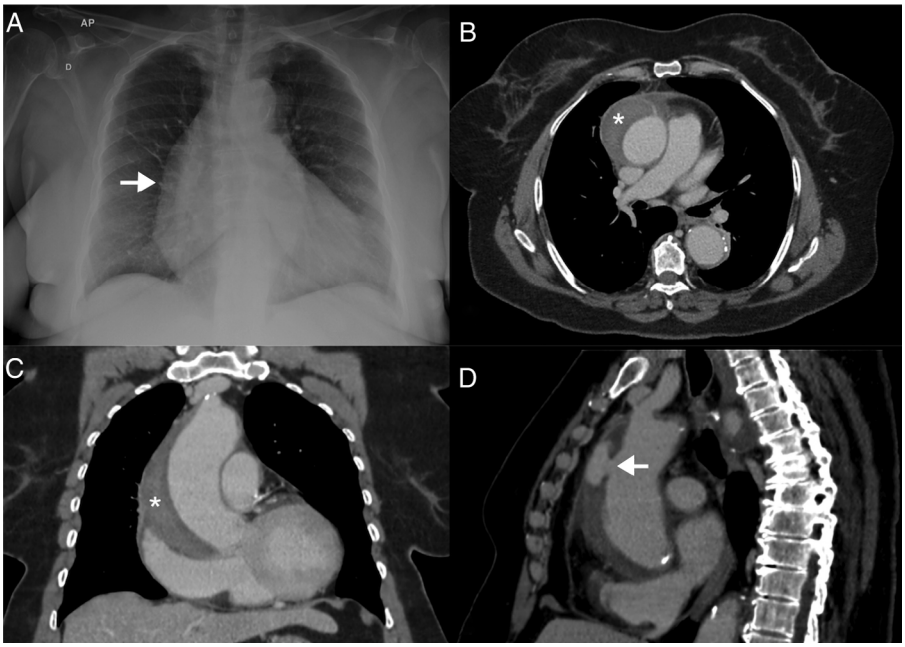

Fig. 1 – Frontal chest X-ray (A) shows enlargement of the right heart border. Transaxial, contrast-enhanced computed tomography (B) image showing dilatation of the ascending aorta end evidence of type A aortic dissection (*). Coronal (C) and sagittal oblique (D) contrast enhanced computed tomography images showing a type A aortic dissection (*) and the point of intimal tear (arrow).