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Syphilitic aortitis: A mimicker of mediastinal mass

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**Title**: **Syphilitic aortitis: A mimicker of mediastinal mass**

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A 78-year-old male with hypertension and a history of smoking presented with progressive cardiac failure symptoms and palpitations. ECG revealed atrial fibrillation. Chest radiograph (Figure 1A) showed a widened mediastinum and enlarged aortic knuckle, raising possibility of a thoracic aortic aneurysm. CTA of thorax confirmed a 10.4 cm aneurysm with an intramural thrombus (Figure 1B&1C) compressing the main pulmonary trunk(Figure 1D). Transthoracic echocardiogram showed moderate aortic regurgitation, right atrial dilation, and right ventricular dysfunction.Blood investigations confirmed syphilis with positive RPR and TPHA tests. The patient was treated with IM Benzathine Penicillin (2.4megaunits weekly for 3 weeks) and anticoagulation for atrial fibrillation. Due to the large aneurysm and failure symptoms, surgical repair was recommended but declined by the patient.Cardiovascular syphilis, though rare today, can cause syphilitic aortitis, leading to large aneurysm formation. Aortic rupture or compression of nearby structures can result in life-threatening complications. Chest radiography may suggest an aneurysm, but CTA and MRI are required for definitive diagnosis and measurement. Treatment includes antibiotic therapy and surgical intervention for large aneurysms. This case underscores the importance of considering syphilitic aortitis in the differential diagnosis of thoracic aneurysms, particularly in high-risk populations.

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**Conflict of interest:** None declared.

Ethics in publishing

1. Does your research involve experimentation on animals?:

No

2. Does your study include human subjects?:

No

3. Does your study include a clinical trial?:

No

4. Are all data shown in the figures and tables also shown in the text of the Results section and discussed in the Conclusions?:

Yes

References :

1. Tomey MI, Murthy VL, Beckman JA. Giant syphilitic aortic aneurysm: A case report and review of the literature. Vasc Med. 2011 Aug 15; 16(5) 360–364.

2. Duncan JM, Cooley DA. Surgical considerations in aortitis. Part III: syphilitic and other forms of aortitis. Tex Heart Inst J 1983;10:337–41.

3. Isselbacher EM, Preventza O, Hamilton Black J, Augoustides JG, Beck AW, Bolen MA, Braverman AC, Bray BE, Brown-Zimmerman MM, Chen EP, Collins TJ, DeAnda A, Fanola CL, Girardi LN, Hicks CW, Hui DS, Schuyler Jones W, Kalahasti V, Kim KM, Milewicz DM, Oderich GS, Ogbechie L, Promes SB, Gyang Ross E, Schermerhorn ML, Singleton Times S, Tseng EE, Wang GJ, Woo YJ. 2022 ACC/AHA Guideline for the Diagnosis and Management of Aortic Disease: A Report of the American Heart Association/American College of Cardiology Joint Committee on Clinical Practice Guidelines. Circulation. 2022 Nov 2; e334 - e482.

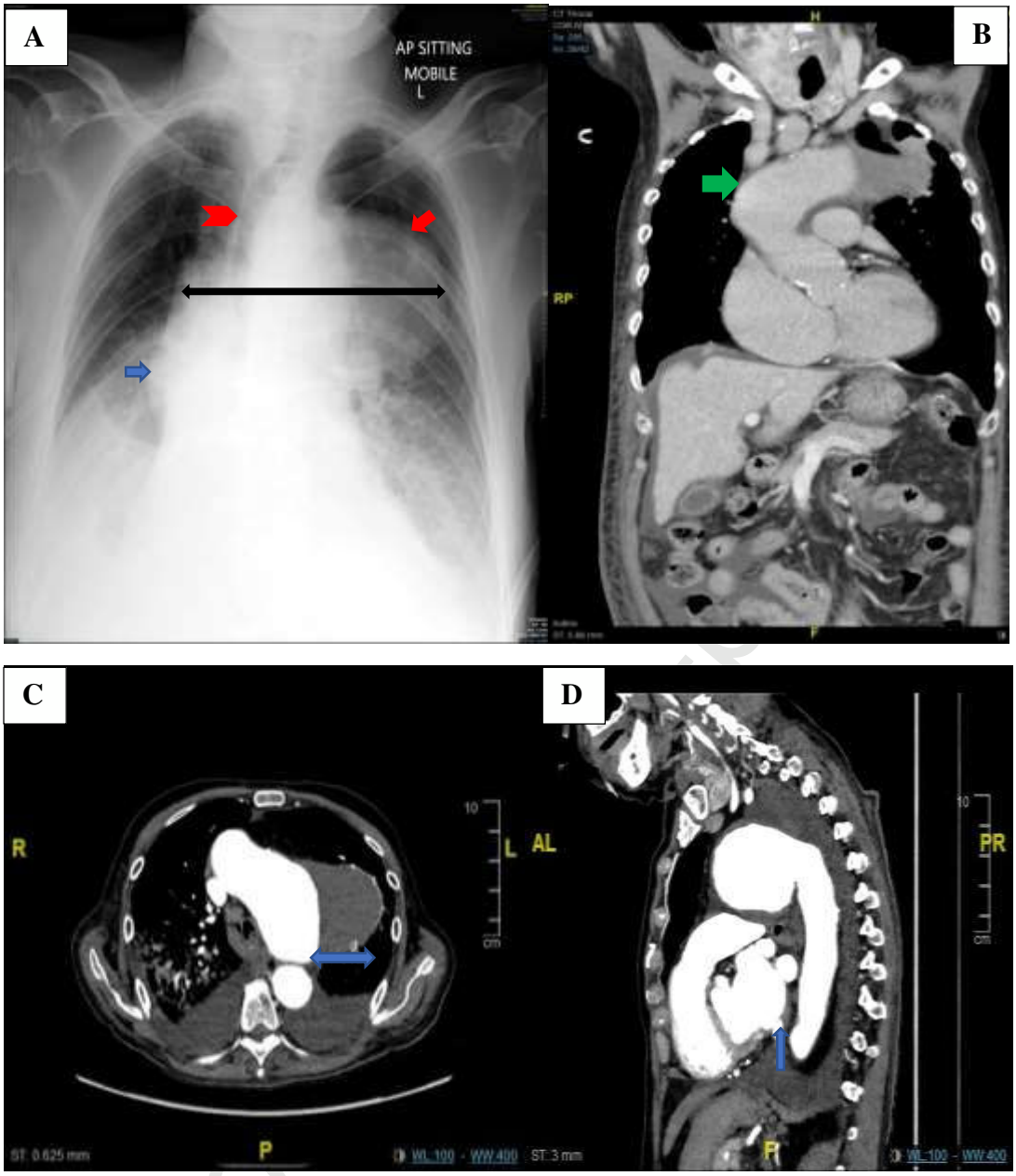


**Figure 1** : (A)Chest radiograph shows a widened mediastinum (black bidirectional arrow) with enlarged aortic knuckle (red arrow), displacing the trachea to the right (red arrow head). The right heart border is prominent (blue arrow) indicative of a dilated right atrium. There is bilateral pleural effusion. (B) Coronal section of CT angiogram of the thorax shows a large fusiform dilatation of the arch of aorta. (C) Axial section of the CT angiogram shows an aneurysm measuring 10.4cm in widest diameter with intramural haematoma measuring 4.9cm in thickness. (D) Sagittal section of the CT angiogram of the thorax shows that the aneurysmal dilatation is causing significant mass effect and compressing onto the main pulmonary artery (blue arrow).