

Case Report

Thoracic aorta aneurysm- a rare cause of chronic backache with mediastinal shadow: case report

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ABSTRACT

Thoracic aortic aneurysms (TAA) are rarely symptomatic. A 55 year old male presents with longstanding chronic backache. CXR showed left hilar shadow with collapse of left lung. Considering the CXR findings and with the patient being chronic smoker a strong possibility of carcinoma lung with bony metastasis was kept and further CECT chest was done. The CECT chest was suggestive of a thoracic aorta aneurysm with thrombosis compressing left principal bronchus and its lower lobar branch resulting in distal area of collapse and consolidation of left lower lobe. These findings were further confirmed on CT angiography. The patient was thus diagnosed as a case of descending thoracic aorta aneurysm probably of atherosclerotic etiology with thrombosis. Patient was started on beta blockers and ACE inhibitors along with supportive and symptomatic treatment and was further transferred to the department of CTVS for surgical intervention. Thus, this case report here signifies that possibility of thoracic aorta aneurysm should always be considered in a patient with chronic backache specially in presence of mediastinal shadow on CXR.

Keywords: Thoracic aorta aneurysm, Backache, Mediastinal shadow

INTRODUCTION

Rarely low back pain is caused by visceral diseases rather than biomechanical disorders, one such rare cause is abdominal aortic aneurysm (AAA).¹⁻³ An aneurysm is a localized abnormal dilatation of a blood vessel or the heart that may be congenital or acquired with thoracic aorta aneurysm being extremely rare with incidence of only 4.5 per lac population. Genetic diseases (Marfan syndrome, Loeys-Dietz syndrome, Ehler Danlos syndrome, familial thoracic aortic aneurysm syndrome, and aneurysms osteoarthritis syndrome), cystic medial necrosis, giant cell arteritis, infections (syphilis, mycotic infections, tuberculosis) and trauma play a role in the etiology. Often, they are asymptomatic; but they can present as low back pain.⁴ Here, we report a rare case of thoracic aorta aneurysm presenting with chronic backache and mediastinal shadow on CXR. This case

signifies that aortic aneurysms should be considered as one of the differential diagnosis in patients with chronic backache.

CASE REPORT

A 55 year old Hindu vegetarian male presents with chief complaints of chronic backache since 8 yrs and chest discomfort since 1 month. Back pain was chronic, diffuse, dull aching gradually progressive since 8yrs radiating to the front through left lateral side with no variation with posture or exertion and not relieved with analgesics. There was no preceding history of (h/o) any trauma, fever, cough, hemoptysis, joint pain, rash, othopnoea or exertional dyspnoea. Patient has been chronic smoker with 10 pack years of cigarette smoking. His bladder, bowel, sleep habits were normal, however his appetite has decreased over the past 1 yr. No

significant past, family or drug history was elicited. On examination vitals were normal with normal volume pulse and blood pressure in all the four limbs. On respiratory system examination movements and fremitus were decreased over the left lung base with dull note on percussion and decreased breath sounds on auscultation. On cardiovascular examination visible pulsations over suprasternal, B/L supraclavicular and left infraclavicular region were seen with bruit heard over left infrascapular, mitral and tricuspid area. Other systemic examination was normal. All the routine investigations were normal. CXR showed left hilar shadow with collapse of left lung. On this basis with the patient being chronic smoker a strong possibility of carcinoma lung with bony metastasis was kept and further CECT chest was done. The CECT chest had evidence of broad base (5.4*6.6cm) saccular outpouching arising from the descending thoracic aorta from D8 to D10 level showing central vascular contrast attenuation and peripheral hypodensity s/o aneurysm, evidence of thrombosis within the aneurysm was also seen; anteriorly there was compression effect on the left principal bronchus and its lower lobar branch resulting in distal area of collapse and consolidation of left lower lobe. These findings were further confirmed on CT angiography. The patient was thus diagnosed as a case of descending thoracic aorta aneurysm probably of atherosclerotic etiology with thrombosis. Patient was started on beta blockers and ACE inhibitors along with supportive and symptomatic treatment and was further transferred to the department of CTVS for surgical intervention.

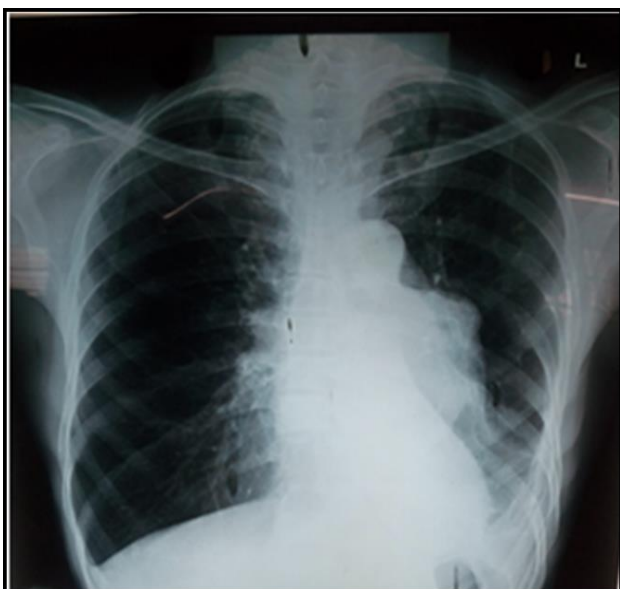


Figure 1: CXR PA view showing mediastinal shadow (left hilar) and lung collapse.

DISCUSSION

Generally patients older than 50 years present with arteriosclerotic aneurysms and it is usually uncommon before 50 years of age.⁵ It is asymptomatic in 66% to

75% of cases.^{4,6} In the absence of specific signs and symptoms almost 20% to 30% of cases are misdiagnosed.⁷ Thoracic arteriosclerotic aneurysms are frequently associated with lesions at other vascular sites also. Patients may present with hip, flank, groin, or buttock pain in addition to their back or abdominal pain.^{6,8} The pain is often vague; but when there is compression of an AAA on an adjacent structure such as a vertebral end plate, the pain may be described as sharp or stabbing.⁶ Our patient too presented with non specific chronic backache. Thrombosis causing distal embolization or aortic occlusion may cause leg symptoms of sudden ischemia, painful cyanotic toes, and palpable pedal pulses. A dissection or rupture may result in more acute pain of sudden onset.^{6,7} Our patient described above did have low back pain however with all peripheral pulses being palpable he did not show any signs of thrombosis.

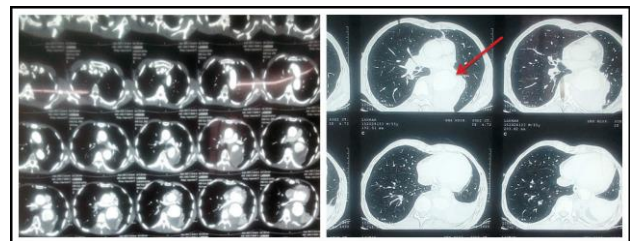


Figure 2: CECT thorax suggestive of descending thoracic aorta aneurysm (arrow) with thrombosis.

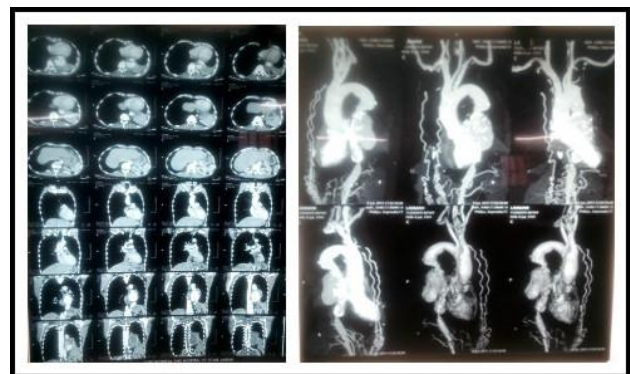


Figure 3: CT angiography of the chest with evidence of large fusiform dilation arising from descending thoracic aorta which is partially thrombosed with presence of multiple foci of calcifications along its walls.

A large descending thoracic aorta aneurysm can also compress the recurrent laryngeal nerve and cause hoarseness but this is more frequently reported in aneurysms of aortic arch. Compression of the trachea or bronchi can although cause coughing, hemoptysis, or wheezing but no such finding was reported in our case.

Age, sex, smoking, and family history are significant risk factors for AAA.³ Abdominal aortic aneurysm has 5 to 10 times more predisposition for male sex than

female.^{2,6,7} Risk factors of age, sex, and history of smoking were all particularly present in this patient of ours. Smoking cessation is probably the only modifiable risk factor associated with AAA expansion.²

One more positive association with AAA is atherosclerotic disease, which includes coronary heart disease and claudication.^{4,8} Our patient though did not give history of any previous ailment. AAA thus is a multifactorial disorder with multiple genetic and environmental risk factors.¹⁰

There is limited application of clinical examination in detecting AAA. However abdominal palpation and auscultation are important, especially when a non-mechanical or abdominal pathology for low back pain is suspected or in patients not responding to standard treatment.

The abdominal aorta is palpated in supine position with the knees bent at or slightly above the umbilicus in the epigastrium.⁶ Specially in thin people, an abdominal pulse can easily be felt. In the case of AAA, a prominent nontender pulsatile mass is felt.^{7,8} Apart from abdominal palpation, auscultation for bruits (abdominal and femoral) may be useful for clinical detection of AAA. Absence of a bruit though does not exclude an aneurysm.⁸ In this patient, auscultation did reveal significant clinical findings.

Operative mortality rates in elective surgical repair vary from 1.4% to 5.8%, with a complication rate of 32.4%.^{4,11} Aneurysms are therefore not repaired until they are at least 43 mm.⁸ Associated comorbidities result in greater mortality rates.¹¹ Medical therapy too has been tried with limited benefit and in selected cases, β -blockers may be beneficial for reducing the rate of aortic dilatation and Angiotensin-converting enzyme inhibitors (ACEIs) have been shown to both stimulate and inhibit MMPs and the degradation of extracellular matrix in aortic aneurysms.¹² Since our patient did not have significant comorbidities we have referred him for surgical intervention after starting medical therapy.

CONCLUSION

Although, thoracic aorta aneurysm is a rare cause of chronic backache with mediastinal shadow in an elderly male with all the risk factors for Ca lung still possibility of thoracic aorta aneurysm should always be considered whenever a patient comes with a mediastinal shadow on CXR.

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