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Case report

COMPRESSION OF LEFT MAIN BRONCHUS WITH COLLAPSE OF LEFT LUNG BY A LARGE DESCENDING THORACIC AORTIC ANEURYSM: A CASE REPORT

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ABSTRACT

We report a case of 60 years old female who presented with a history of progressive breathlessness over a period of one year. CECT thorax revealed a large aneurysm of descending thoracic aorta which was causing compression of left main bronchus with resultant complete collapse of left lung. There was a contralateral shift of the trachea and mediastinum.

Keywords: Large aneurysm, descending thoracic aorta, left main bronchus

INTRODUCTION

The origin of term, "aneurysm" is from the Greek word, "Aneurusma", which means "widening". [1] In general an aneurysm is defined as "a permanent and irreversible localized dilatation of a blood vessel".[1] Morphologically the, "fusiform" or "saccular" aneurysm can be defined, when the aneurysm involves the whole or partial circumference, respectively.[1] Computed tomography (CT), is a standard modality for evaluating an aortic aneurysm as it provides morphology and its relationship with the adjacent structures.[2]

In this article we are presenting a case of thoracic aortic aneurysm with compression of left main bronchus which was diagnosed on CECT.

CASE REPORT

A 60 year old female presented with a history of progressive breathlessness over a period of one year. A radiograph of chest showed opaque left hemithorax with contralateral shift of mediastinum and curvilinear calcification [Figure 1]. CECT thorax showed severe fusiform dilatation of entire thoracic aorta commencing approx. 1.5 cm distal to origin of left subclavian artery and extending inferiorly up to T11 vertebra. Non enhancing intraluminal hypodense thrombus was seen with peripheral calcifications. The entire lesion measured 12.4 x 11.6 x 18.0 cms in its antero-posterior, transverse and cranio-caudal dimensions respectively [Figure 2 & 3]. There was contralateral shift of trachea and mediastinum. Significant extrinsic compression of left main bronchus was noted with resultant

complete collapse of left lung [Figure 4]. The lesion also causesd compression of mid esophagus with proximal dilatation. Scalloping of the adjacent left ribs was noted due to chronic pressure effect. Incidentally, aberrant right sub-clavian artery was seen [Figure5]. Small quantity of left pleural and pericardial effusion was seen [Figure2&3].

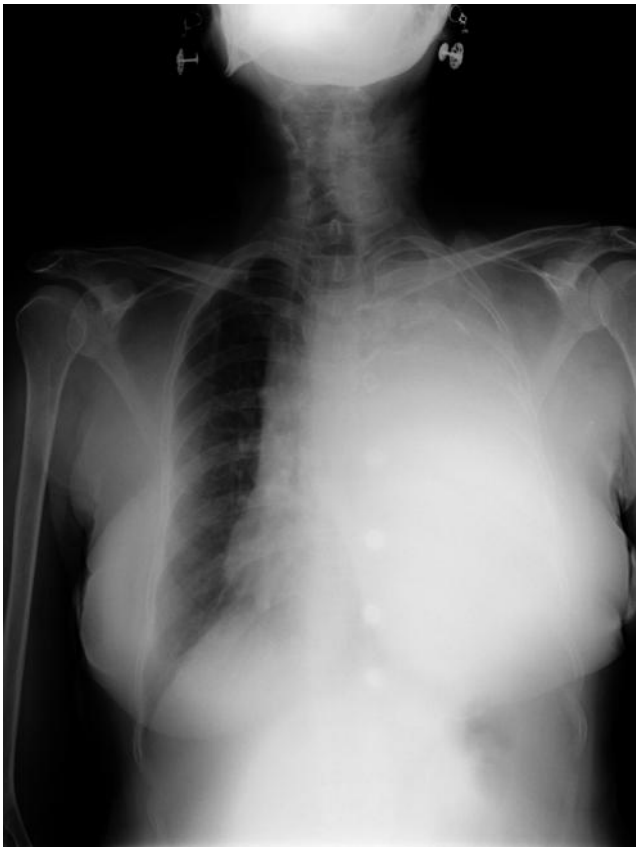

Fig.1: X- ray chest

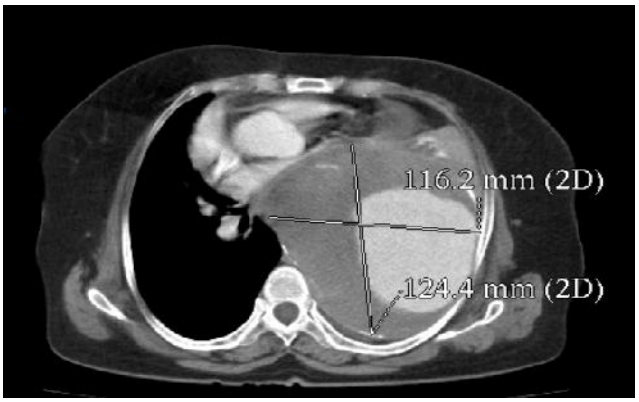

Fig.2: Axial CECT image showing large an aneurysm of descending thoracic aorta with peripheral hypodense thrombus

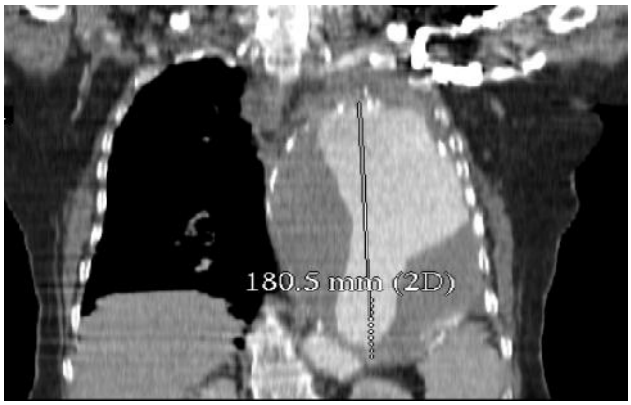

Fig.3: Coronal CECT image showing cranio caudal extent of the aneurysm

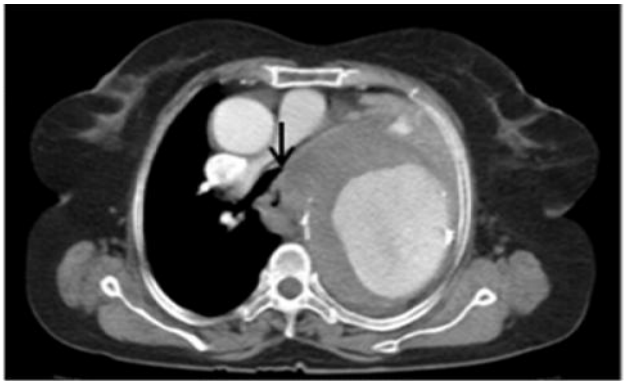

Fig.4: Axial CECT Arrow shows compression of left main bronchus

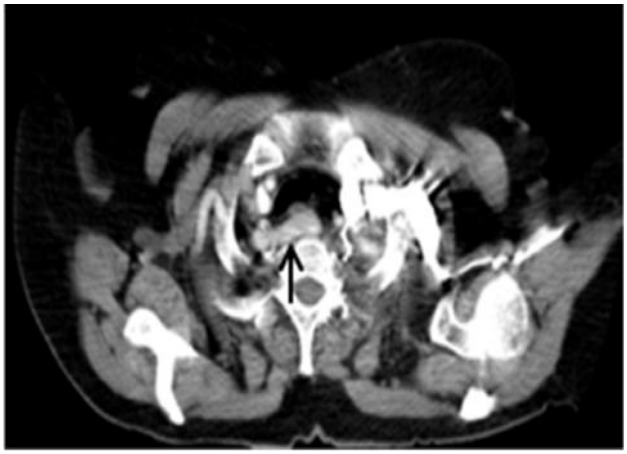

Fig.5: Axial CECT image, arrow showing aberrant right subclavian artery

DISCUSSION

An aortic aneurysm defined as an abnormal focal dilatation of blood vessels. Computed tomography (CT) angiography is commonly used for the diagnosis of thoracic aortic aneurysm [3]. The diameter of the descending thoracic aorta should not be more than 3 cm[3,4]. The thoracic

aorta consists of aortic root, ascending aorta, aortic arch and descending thoracic aorta. The ascending aorta is from the root of the aorta to the origin of the right brachiocephalic artery. The aortic arch extends from the right brachiocephalic artery to the attachment of the ligamentum arteriosum. The descending thoracic aorta extends from the ligamentum arteriosum to the aortic hiatus in the diaphragm[5].

Thoracic aortic aneurysm can be classified as true aneurysm or false aneurysm (pseudoaneurysm). True aneurysms consist of all the three layers i.e. intima, media, and adventitia. Fusiform dilatation is commonly seen with atherosclerosis[3]. Out of the various causes of aneurysm, atherosclerosis is the most common cause accounting for approximately 70% of all thoracic aortic aneurysm[6.]

Pseudoaneurysms are not lined by all the three layers and are contained by the an adventitia or periadventitial tissue. They are typically saccular having a narrow neck, and the common causes are trauma, penetrating atherosclerotic ulcers, or infection (mycotic aneurysms)[6].

CT accurately gives assessment of thrombus morphology and the patent contast filled lumen.

The extent and the location of the calcification is also better evaluated on CT scan. The mass effect of thoracic aortic aneurysms like compression of adjacent structures is also clearly seen with the help of CT scan[3].

CONCLUSSION

CT with its post processing advantages such as maximum intensity projection, volume rendering, and multiplanar reformatting provides valuable information regarding morphology of the aortic wall, adjacent structures structure and helps in the planning of the treatment.

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