

Mediastinal Widening Secondary To Mediastinal Lipomatosis

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Citation

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Abstract

Mediastinal lipomatosis is a benign condition characterized by symmetric unencapsulated accumulation of fat within the mediastinum, which distorts the mediastinal silhouette to varying degrees. Here we report a case of mediastinal lipomatosis, in 65 year old male due to simple obesity, based on thoracic computed tomography that came to us as a part of anesthesia clearance.

INTRODUCTION

Symmetrical mediastinal lipomatosis is a rare benign condition characterized by deposition of a large amount of mature adipose tissue within the mediastinum. It is usually secondary to administration of steroids, Cushing's disease₁, and exogenous obesity, which is rare₂. Computed tomography is now and in most instances the definitive imaging modality for evaluating the widened mediastinum. We hereby report a case of mediastinal lipomatosis, who had asymptomatic mediastinal widening due to mediastinal lipomatosis secondary to exogenous obesity.

CASE REPORT

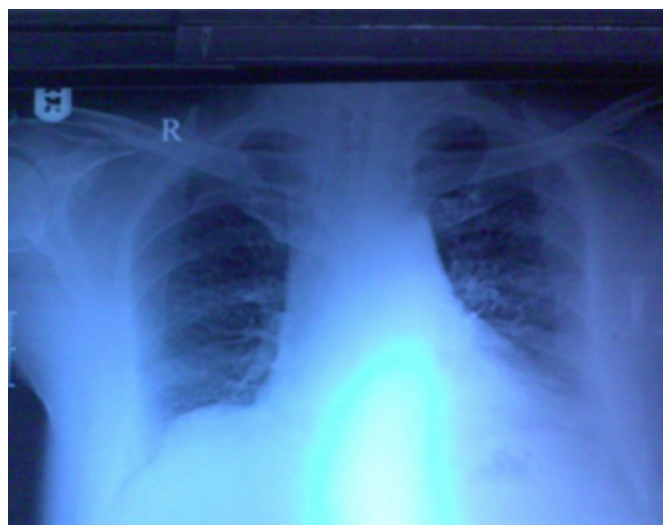
A 65 years old male, non smoker came in our OPD for pre operative evaluation of respiratory system. Clinical examination revealed obese man, weight 92 kg (Body Mass Index: 31). His resting pulse rate was 92/min and blood pressure was 128/74 mmHg and respiratory rate was 16 / min. There were no abnormal findings in the respiratory and cardiovascular systems. The abdomen was fatty and pendulous.

His Haemoglobin was 12 gram %; total leucocyte count 8100/cmm: neutrophils 72 %, lymphocytes 25 % and eosinophils 3%. His blood urea was 28 mg/dl; serum creatinine 0.5 mg/dl. His serum bilirubin was 0.6 mg/dl; SGPT 28 U/L; SGOT 19 U/L, SAP 193 U/L. His serum cholesterol was 195.2 mg % and serum triglyceride 209.3 mg %. He was HIV and HBs sero negative. His PPD was negative. His USG abdomen revealed fatty infiltration of liver.

His Chest x-ray revealed mediastinal widening (Fig: 1).

Figure 1

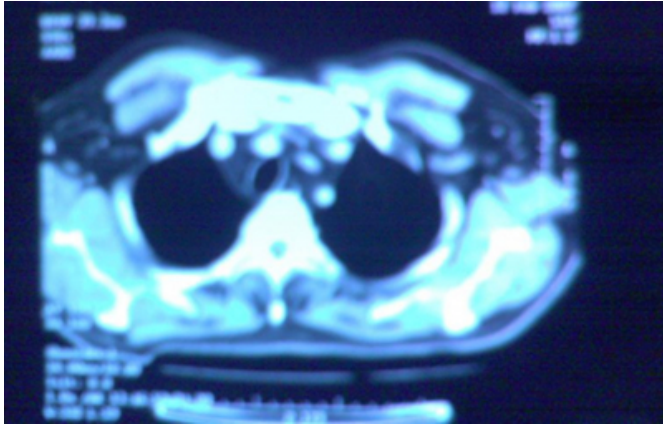
Figure 1: Reveals mediastinal widening



Thus to rule out any malignant conditions his thoracic computed tomography was done that revealed bilateral mediastinal widening due to presence of low density fat (-80 HU). Fat deposition was also noted in all the mediastinal structure (Fig: 2).

Figure 2

Figure 2: A CT Thorax revealed bilateral mediastinal widening due to presence of low density fat (-80 HU). Fat deposition was also noted in pericardial region-suggestive of mediastinal lipomatosis



Thus the diagnosis of mediastinal lipomatosis was established. He was advised to reduce his weight.

DISCUSSION

Mediastinal lipomatosis is a benign condition characterized by poorly circumscribed growth of mature adipose tissue within the mediastinum, which distorts the mediastinal silhouette³. Mediastinal lipomatosis is usually seen with Cushing's disease treated with steroid therapy, alcoholism, simple obesity and less often with spontaneous Cushing's disease. In simple obesity, excessive fat is generally stored at various body sites, notably in the subcutaneous tissue, omentum, mesentery, and perirenal tissue⁴. Although more fatty tissue may be present within the mediastinum in obese persons, an amount of fat sufficient to produce significant mediastinal widening is rare, as seen in present case. It may also occur without obesity. Other causes are hyperuricaemia, hyperlipidaemia, insulin dependent diabetes mellitus, liver disorder, hypertension, hypothyroidism and thyroid cancer and steroid treated regional enteritis⁵.

They clinically present as dyspnoea due to extensive mediastinal lipomatosis and narrowing of trachea, while in present case there was no symptoms.

The usual appearance on the chest radiograph is a smooth widening of the anterior and superior mediastinum without any deformity of the trachea. Although the association of mediastinal lipomatosis with narrowing of the intrathoracic portion of the trachea ("sabre sheath" trachea) in two patients reported by Hoskins⁶. On a conventional radiograph, the density of abnormal shadow in mediastinal

lipomatosis is not as pronounced as that of other masses or surrounding structures. Although the fatty tissue is more radiolucent, its lucency is lost to certain degree because of more lucent pulmonary tissue. In majority of cases definitive diagnosis can be established by computed tomography. CT scan locates and defines the extent of mediastinal mass, establishes the diagnosis of fatty masses and also differentiates between vascular and non vascular masses. It is also helpful in detecting pulmonary metastasis and involvement of mediastinal lymph node in case of malignant conditions^{7,8}. Other techniques like barium study, angiography and scintigraphy are less informative for the diagnosis of mediastinal lipomatosis.

There is no specific treatment of mediastinal lipomatosis. But Mediastinal lipomatosis has disappeared following adrenalectomy in spontaneous Cushing's syndrome¹ and when steroids were tapered in iatrogenic Cushing's syndrome⁹. The fate of mediastinal lipomatosis in simple obesity is not reported, and there is no report about whether weight reduction will be followed by disappearance of mediastinal lipomatosis.

The differential diagnoses of mediastinal lipomatosis are carcinoma, lymphoma, thymoma, teratoma cyst, lipomatosis and aneurysms of the great vessels and less common causes reported are superior vena cava thrombosis, multiple leucic saccular aneurysms of the aorta, congenital aortic elongation, aneurysm of the left brachiocephalic vein, intravascular lipoma of the superior vena cava, mediastinal abscess, traumatic esophageal rupture, and traumatic cerebrospinal fluid leak in children.

We conclude that it is important to recognize mediastinal lipomatosis as a cause of mediastinal widening, as it will avoid unnecessary invasive procedures including thoracic exploration.

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