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Case Report

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AN UNUSUAL CASE OF FASTING HYPOGLYCEMIA: A CASE REPORT AND REVIEW OF LITERATURE.

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ABSTRACT

Primary pleural neoplasms comprise a rare entity, amongst which pleural fibromas or solitary fibrous tumors of pleura (SFTP) form a rarer subset. A minority of these produces systemic symptoms like hypertrophic osteoarthropathy and hypoglycemia. In this case report we describe the key role played by radiology and imaging in detecting and diagnosing SFTP in an elderly gentleman who was evaluated for fasting hypoglycemia.

KEY WORDS: Solitary fibrous tumor of pleura (SFPT); Hypoglycemia; Computed Tomography.

THE CASE REPORT

A 70 year old male who came with complaints of sweating, restlessness and altered sensorium during early morning hours which got relieved after food intake for the past two weeks; was found to have random blood sugar values of 37mg%.

His chest radiograph (Figure 1) was obtained and revealed some findings.

Figure 1: Frontal chest radiograph showing a right lower zone opacity overlapping the mediastinum which appears broad based to the chest wall and showing high density calcific foci noted within. The lateral border of the opacity was indistinct.

Further he was evaluated with CECT (Contrast enhanced Computed Tomography) thorax (Figures 2 to 6)

Figure 2: Unenhanced axial CT section through the mass showing a large soft tissue density pleural based mass with calcific foci within. The lesion was of heterogeneous attenuation showing areas that were of high attenuation (equal to or more than that of the muscle) in the periphery and of low attenuation towards the center.

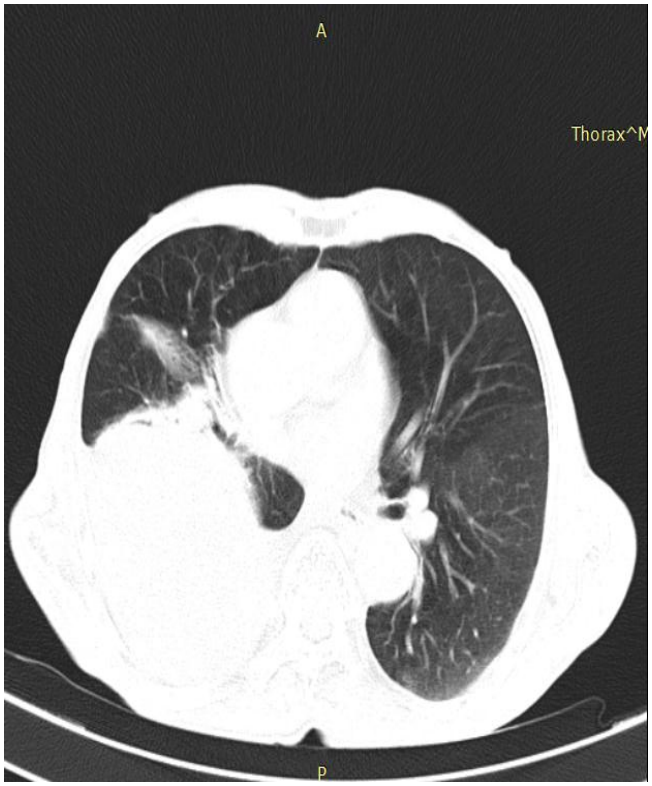

Figure 3: **Unenhanced axial CT section in lung window settings showing no significant lung changes except for passive atelectasis of the related posterior parenchyma**

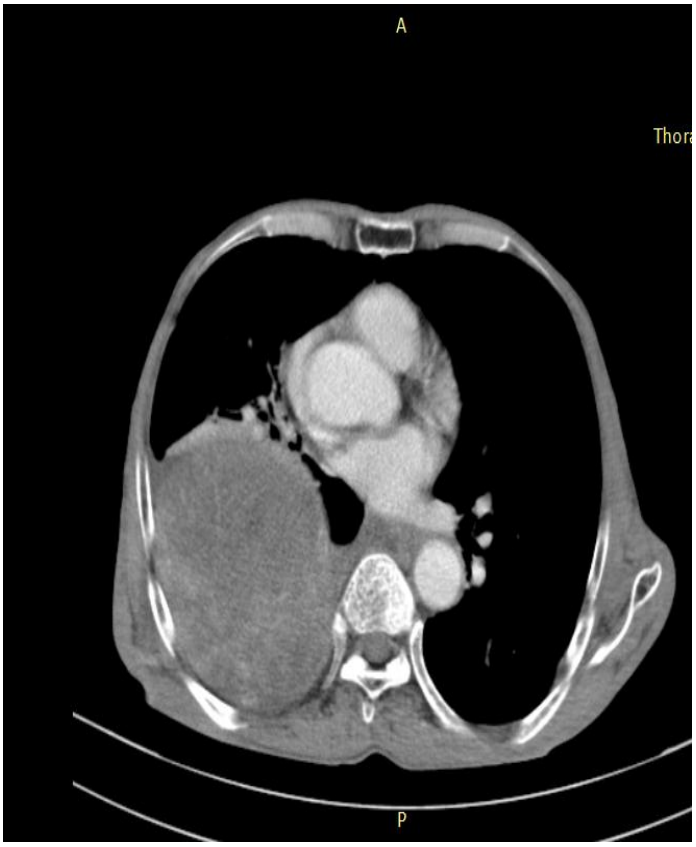

Figure 4: **Post contrast axial CT image showing moderate heterogenous post contrast enhancement of the mass. The extrapleural fat is visualised which is seen posterior to the mass.**

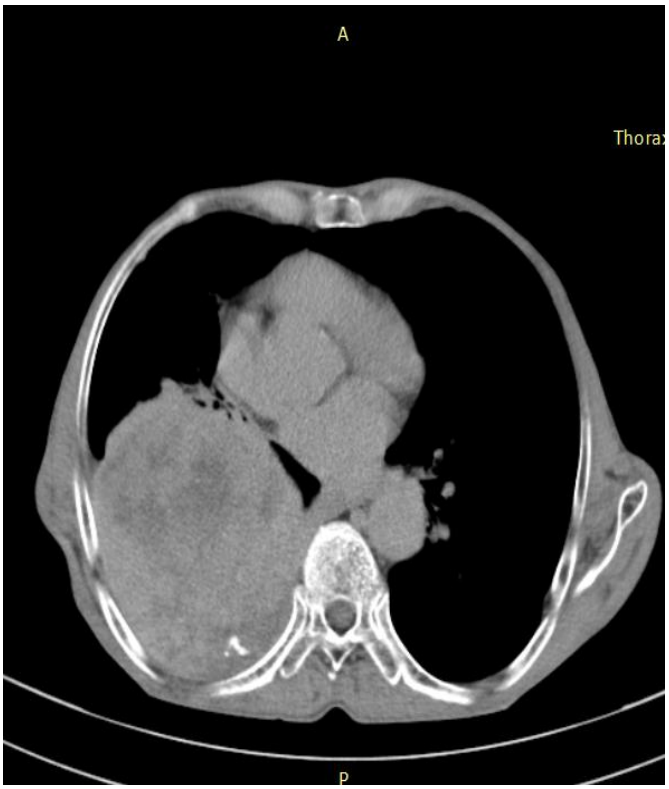

Figure 5: **5 minutes delayed post contrast axial CT image showing progressive enhancement rendering the lesion more homogenous.**

Figure 6: **Post contrast right parasagittal reformatted image showing the globular mass with effusion in the right pleural space**

Based on the radiological findings a diagnosis of Solitary fibrous tumor of pleura (SFTP) was suggested.
A transthoracic biopsy was taken from the mass and the histopathology examination confirmed the lesion to be Fibrous Tumor of Pleura

DISCUSSION

Primary pleural neoplasms account for only 5% of all pleural neoplasia. The commonest among these is the highly malignant mesothelioma, whereas SFTP (Solitary Fibrous Tumor of Pleura) represents less than 5% of the subset.[1, 2]

Majority of the patients affected are above 50 years of age and a slight female preponderance is reported.[3] More than 50% of these lesions are asymptomatic and the symptoms are found to be directly related to the size of the lesion. Apart from nonspecific chest pain and discomfort these lesions can uncommonly present with paraneoplastic symptoms like hypertrophic osteoarthropathy and hypoglycemia as was in our case[3, 4]. The cause of hypoglycemia has been the subject of many theories and the most accepted one pertains to production of Insulin like Growth Factor -2 (IGF-2) by the tumor[5].

SFTP tend to be located in the mid and inferior hemitorax and radiography often reveals homogenous opacity seemingly located in the periphery of the lung with a broad base to the pleura[6] and an incomplete border sign as seen with extrapleural masses[7].

Computed Tomography shows the SFTP to be of high attenuation, i.e. equal to that of the muscle, in unenhanced images; and the larger lesions show significant heterogeneity with areas of low attenuation within.[8, 9] Calcification is reported in approximately 7% of the cases.[8]

On intravenous contrast administration the heterogeneity is further pronounced with the solid non necrotic areas showing enhancement and the necrotic low attenuation areas remaining as such.[9] The delayed imaging helps in confirming the fibrous nature of the lesion as delayed progressive enhancement of the fibrous elements renders the lesion more homogenous than in the early post contrast images.[10, 11] Further, visualization of the extrapleural fat stripe between the lesion and the chest wall (i.e. absence of extrapleural fat sign) along with absence of significant lung parenchymal changes allows a confident localization of the mass to the pleura[12]. Chest wall involvement manifested as sclerosis or erosion of ribs is rare in SFTP[13].

CONCLUSION

Fasting hypoglycemia in an adult warrants exclusion of paraneoplastic etiology, the SFTP being one among the many causes[14].
It can be seen from the above report that computed tomographic evaluation of the thorax along with radiography plays a pivotal role in the evaluation of such lesions, and careful interpretation of the images allows a confident diagnosis of SFTP be made by virtue of accurate lesion localization, morphology and enhancement pattern.

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