

Benign Fibrous Mesothelioma - A Case Report

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INTRODUCTION

Benign fibrous mesothelioma constitutes less than 5% of pleural tumours with no recognised association with asbestos exposure.[1] In this article we present the complete radiological work up of this uncommon entity, which was later confirmed by histopathology.

CASE REPORT

A 72 year male teacher presented with breathlessness in a known hypertensive on regular treatment. Laboratory investigations revealed hypoglycemia.

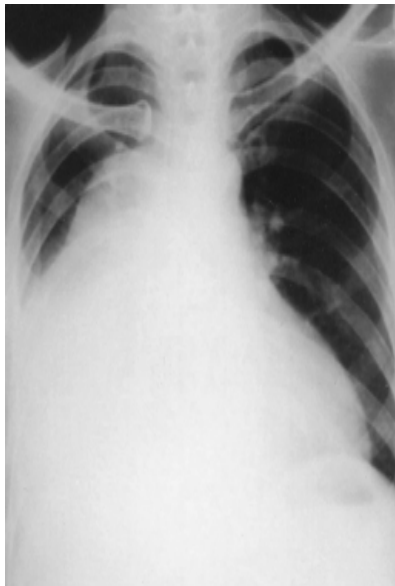


Fig 1. Chest radiograph PA shows homogenous opacity in right hemithorax.

General examination was normal. Chest radiograph revealed a well defined homogenous opacity in the right lower hemithorax (Fig 1). USG (3.5 MHz) revealed a homogenous solid mass (Fig 2&3). Later patient was subjected to CT scan, which revealed a well defined posteriorly situated, well enhancing heterogenous mass (Fig 4&5). CT guided biopsy was performed (Fig 6) and sent for histopathology (Fig 7), which confirmed the

diagnosis Benign fibrous mesothelioma. Patient underwent surgical resection of the tumor.

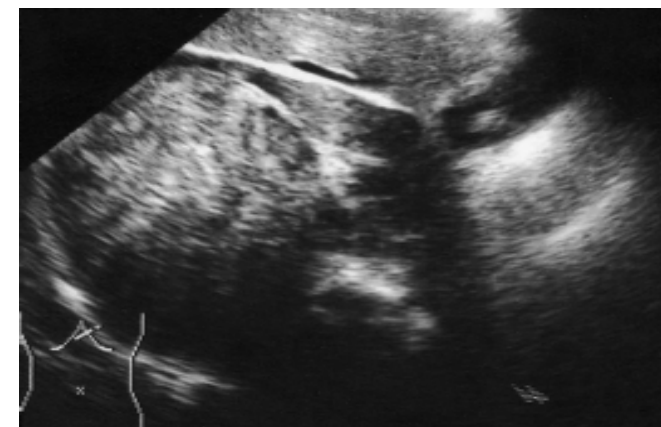


Fig2&3: US abdomen shows a homogenous solid mass (M) indenting the diaphragm (D), liver (L).

DISCUSSION

Benign fibrous mesotheliomas are localized pleural tumors with a good prognosis, in contrast to malignant mesotheliomas. This tumor has been given a variety of names including pleural fibroma, fibrous mesothelioma, localized pleural mesothelioma, benign mesothelioma, and localized fibrous tumor of the pleura. Benign mesothelioma appears to be an inappropriate term since the tumor is thought to arise from mesenchymal cells rather than the epithelial cells. They tend to occur in

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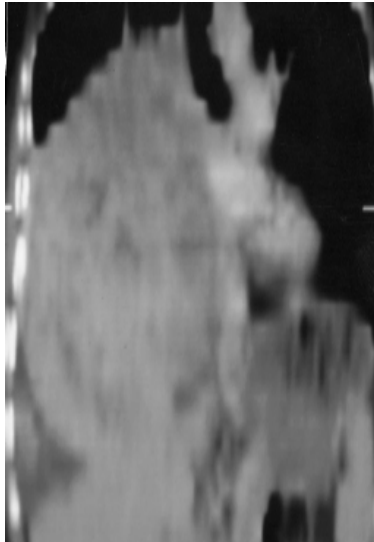
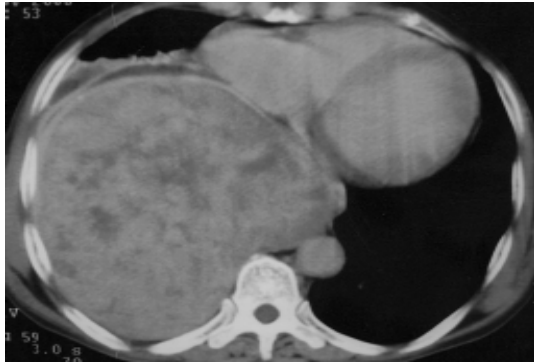


Fig4&5: Contrast enhanced CT thorax with coronal reformation shows a pleural based heterogenous enhancing mass.

older individuals (45 - 65 years) without a specific gender predilection or apparent association with asbestos exposure [1]. 80% arise from the visceral pleura and the remainder from parietal pleura [1].

Clinically benign fibrous mesotheliomas are asymptomatic, detected on routine chest radiographs. Approximately 20% of patients are associated with hypertrophic pulmonary osteoarthropathy and the incidence is much higher with large tumors [2]. Another paraneoplastic syndrome associated with this entity is hypoglycemia possibly due to production of high levels of insulin like growth factor II by this tumor.

Radiologically, these tumors are manifested as solitary, sharply defined, discrete masses located at the periphery of the lung or related to fissure. The mass is frequently lobulated. The mass has an associated pleural effusion in about 10% of the time but the presence or absence of an effusion apparently has no effect on the patients' prognosis [2]. On CT the lesion is usually well marginated and based on a pleural surface. Some 75% shows uniform soft tissue density whereas a large tumor shows central low attenuation areas due to necrosis. The soft tissue

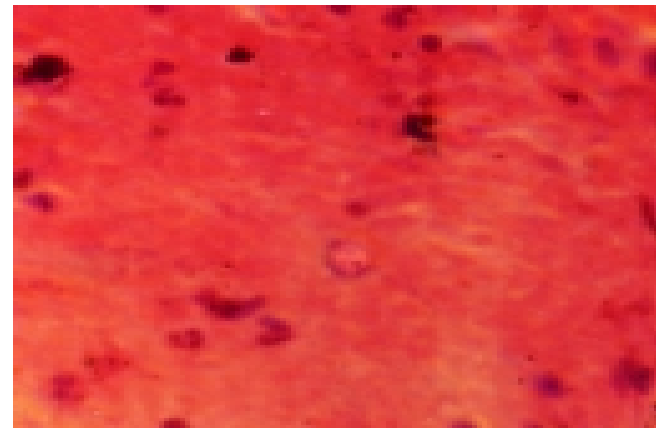
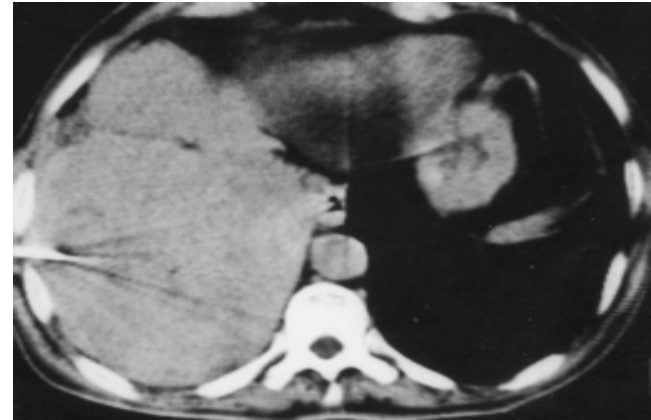


Fig 6&7: CT guided biopsy performed. Histopathology slide (H&E 20x) shows fibrocollagenous stroma with few red cells

elements enhance to a much greater degree than muscle following I.V. contrast administration due to their high vascularity while areas of low attenuation are due to foci of myxoid or cystic degeneration and hemorrhage in the lesion [3,4]. There is no associated mediastinal lymphadenopathy. On MRI benign mesothelioma is hypointense on T1 weighted images and hyperintense on T2 weighted images.

Histologically the tumor is composed of a mixture of spindle shaped fibroblast like cells within a variable amount of collagenous stroma. Surgical resection cures about 90% of these patients but recurrent disease occurs in remaining 10% [4].

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