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A Case Report Of Right-Sided Tubercular Pleural Effusion Masquerading As Malignant Mesothelioma

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Abstract:
A 48-year-old male farmer presented with progressive shortness of breath, cough with expectoration, and constitutional symptoms. Clinical evaluation and imaging revealed findings suggestive of right-sided Pleural effusion. Further workup led to the diagnosis of Granulomatous disease mimicking Malignant Mesothelioma. This case highlights the clinical overlap between benign Granulomatous conditions and rare malignancies such as Mesothelioma.

Keywords: *Pleural Effusion, Granulomatous Disease, Malignant Mesothelioma, Respiratory Medicine.*

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I. Introduction

Malignant Mesothelioma is a rare neoplasm arising from mesothelial cells, commonly affecting the pleura[1]. It is primarily associated with asbestos exposure and presents with nonspecific respiratory symptoms. Early diagnosis is challenging due to overlapping features with benign conditions such as Granulomatous pleuritis or fibrothorax.

II. Case Report

A 48-year-old male resident of Dasannapeta, Vizianagaram farmer by occupation, presented with a 2-month history of shortness of breath (MMRC Grade 2), cough with scanty white mucoid expectoration, weight loss, and anorexia. No history of smoking or alcohol use. He had no past significant illness or family history.

General Examination:
Conscious, coherent, and oriented. Weight: 53 kg
Vitals: PR – 78/min, BP – 120/80 mmHg, RR – 18/min, SpO_2 – 98% on room air.
No pallor, icterus, cyanosis, clubbing, lymphadenopathy, or edema.

Respiratory System Examination:
Trachea central, decreased chest movements on the right.
Vocal fremitus decreased on the right.
Dull note on percussion and reduced breath sounds in the right infra-scapular and infra-axillary areas.
Vocal resonance diminished in right lower lung fields.
Other Systems: Normal.

Provisional Diagnosis:
Right-sided Pleural effusion?
Right-sided Fibrothorax

Investigations Planned:
Chest x ray PA view,
HRCT Chest,
Biopsy for Histopathological examination.

III. Discussion

Malignant Mesothelioma primarily affects older adults (60–70 years) and is strongly associated with asbestos exposure. Clinical manifestations include chest pain, dyspnea, and recurrent pleural effusions. Diagnosis is confirmed via imaging, biopsy, and immunohistochemistry.

Types of Mesothelioma:
Epithelioid (60%) – Glandular/tubular structure
Sarcomatoid (20%) – Spindle cells
Biphasic (20%) – Mixed features[2].

Prognosis: Generally poor, with median survival less than 12 months. However, in this case, the diagnosis was granulomatous disease[3], which carries a better prognosis and responds well to treatment.

IV. Conclusion

This case underlines the importance of distinguishing between Malignant and Benign causes of Pleural effusion[4]. Granulomatous diseases can mimic malignancy clinically and radiologically but have a much better prognosis if diagnosed early and treated appropriately.

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