

IMAGES IN HOSPITAL MEDICINE**Malignant Mesothelioma Manifesting in an Elderly Female without Occupational Asbestos Exposure**Sarah Steenson¹, Tarang Pankaj Patel¹, Satish Kalanjeri², Jeremy Carl Johnson²¹Division of Pulmonary, Critical Care and Environmental Medicine, University of Missouri School of Medicine, Columbia MO² Division of Pulmonary, Critical Care and Environmental Medicine, Harry S Truman Veterans Affairs Hospital, University of Missouri School of Medicine, Columbia MO

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CASE PRESENTATION

A 71-year-old Caucasian female with a history of SARS-CoV-2 pneumonia, chronic obstructive pulmonary disease (COPD) and 50 pack-years smoking presented with dyspnea, cough, fever, anorexia, and 12-pound weight loss over two weeks. She had three recent hospitalizations for COPD exacerbation and pneumonia. She was noted to be hypoxic despite five liters/minute of supplemental oxygen. Laboratory studies revealed leukocytosis, hypernatremia, and elevated brain natriuretic peptide. Urine streptococcal and legionella antigens, and respiratory viral panel were negative. Chest radiograph [Figure 1] revealed lobulated left-sided pleural masses, which were confirmed on computed tomography (CT) scan of the chest [Figure 2]. CT-guided pleural biopsy was performed, and the diagnosis of malignant mesothelioma (MM) was established. Positron emission tomography

revealed avidity of the pleural masses [Figure 3]. The patient denied occupational asbestos exposure, however she reported routinely laundering her husband's clothing who worked extensively with asbestos. She elected to pursue hospice care.

CASE DISCUSSION

The relationship between asbestos and MM was first described in 1960¹. Asbestos exposure is noted in >90% of MM cases, with an annual incidence of 2000-3000 cases in the US². Mesothelioma primarily affects males with a median age of 72 at diagnosis². The higher prevalence in men is attributed to occupational asbestos exposure³. However, women account for 25% of mesothelioma cases, and nearly a third of them may have non-occupational asbestos exposure^{4,5}. Women were frequently exposed to asbestos when laundering their husband's work clothing. Work clothes may harbor asbestos

fibers that could become airborne during laundering and lead to significant exposure⁵. Other forms of non-occupational exposure include living near asbestos factories, exposure to asbestos containing home structures or home improvement projects⁵. Prognosis in women is better, particularly for the epithelial subtype of MM⁶.

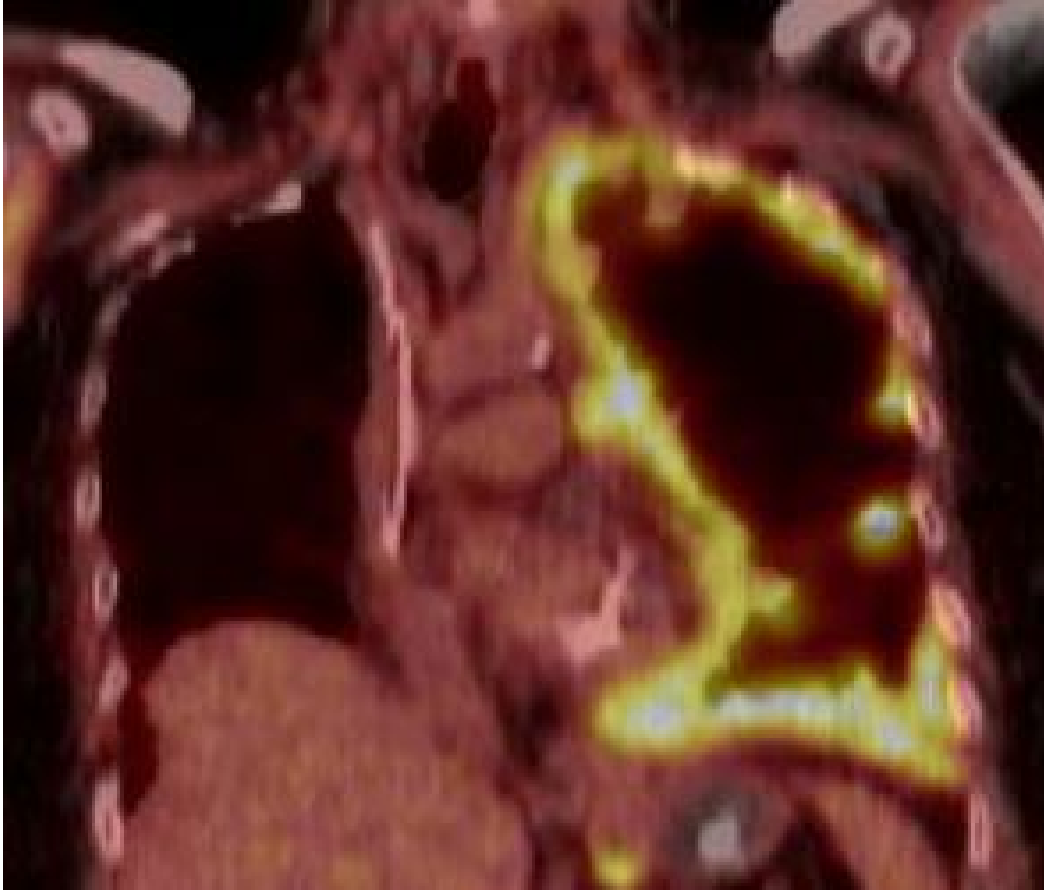
Imaging findings of pleural MM include unilateral pleural effusion and nodular pleural masses and/or diffuse pleural thickening which can encase the lung⁷. Metastasis to ipsilateral and contralateral lymph nodes is common. Pleural effusion is

present in 90% of MM cases⁷. Pleural fluid is typically exudative, and cytology diagnostic in only 30% of cases⁷. Thoracoscopic pleural biopsies have a 98% diagnostic yield for pleural MM⁷.

Unfortunately, few treatment options exist for MM. Chemotherapy and radiation do not provide significant survival benefit, and curative surgical management typically involves resection of a majority of the thoracic cavity⁷. MM carries a five-year survival rate of less than 5%⁷.







NOTES

Potential conflicts of interest: None declared.

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