

Meningotheliomatosis: A Rare Cause of Diffuse Miliary Pattern Pulmonary Opacities

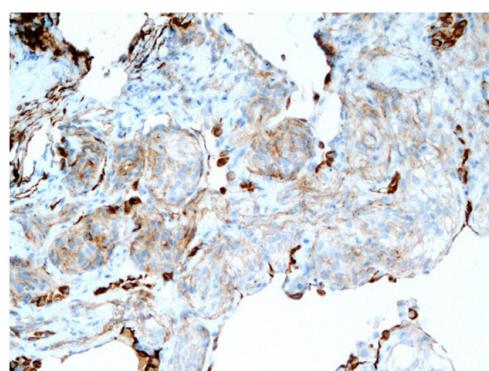
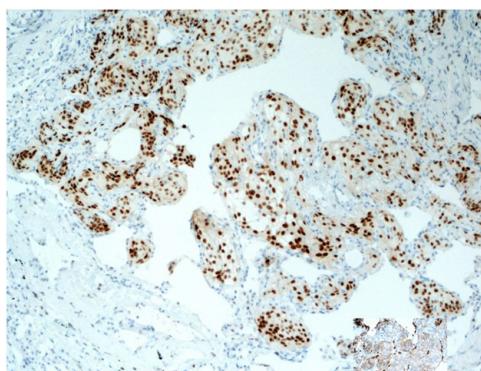
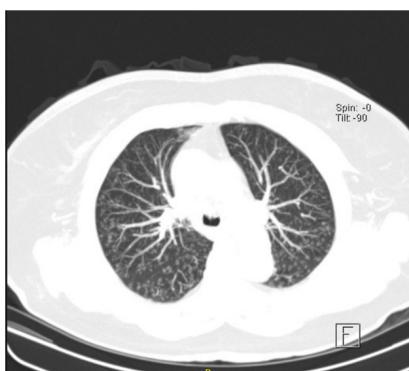
JAMES BENJAMIN GLEASON¹, JONATHAN RYAN SCHROEDER², JOSE RAMIREZ³**Keywords:** Meningothelial like bodies, Surgical lung biopsy, Transbronchial biopsy

A 63 year old female presented for incidentally discovered pulmonary nodules. The Computed Tomography (CT) scan of the chest with contrast showed innumerable and diffusely distributed nodules up to 4mm in a military type pattern [Table/Fig-1]. There was no mediastinal or hilar adenopathy and she denied any respiratory complaints including dyspnea, cough or sputum production. She was born in Paraguay and moved to the United States of America in her early 30's. Medical, social and family history was remarkable for a 10 pack-year smoking history and occupational chemical fume exposure, working in a compounding pharmacy.

Human Immunodeficiency Virus (HIV), Tuberculosis, Autoimmune evaluations were negative. Spirometry was normal and Diffusing capacity of the Lungs for Carbon Monoxide (DLCO) was decreased. Bronchoscopy was performed, cultures were negative,

transbronchial biopsies revealed many meningothelial like bodies confirming the diagnosis of Diffuse Pulmonary Meningotheliomatosis [Table/Fig-2,3].

This exceedingly rare condition, typically asymptomatic and occurring in women near the sixth decade of life, is associated with an increased prevalence of pulmonary malignancy [1]. Positron Emission Tomography/Computed Tomography (PET/CT) scan of our patient did not reveal abnormalities suggestive of underlying malignancy. This condition is historically diagnosed with surgical lung biopsy [2] and we describe the second case diagnosed by transbronchial biopsy [3]. Diffuse pulmonary meningotheliomatosis should remain in the differential for miliary pattern nodules. Lastly, the diagnosis can be obtained from transbronchial biopsy possibly alleviating the need for surgical lung biopsy.



[Table/Fig-1]: Axial CT chest with contrast with maximum intensity projection processing demonstrating diffuse miliary pattern ground glass nodules.

[Table/Fig-2]: Fragments of lung parenchyma with aggregates of meningothelial-like bodies which stain positively for progesterone receptor.

[Table/Fig-3]: Higher magnification, demonstrating the typical positive staining for epithelial membrane antigen consistent with meningioma cells.

REFERENCES

- [1] Mizutani E, Tsuta K, Maeshima AM, Asamura H, Matsuno Y. Minute pulmonary meningothelial-like nodules: clinicopathologic analysis of 121 patients. *Human Pathology*. 2009;40(5):678-82.
- [2] Suster S, Moran CA. Diffuse pulmonary meningotheliomatosis. *The American Journal of Surgical Pathology*. 2007;31(4):624-31.
- [3] Bernabeu Mora R, Sánchez Nieto JM, Hu C, Alcaraz Mateos E, Giménez Bascuñana A, Rodríguez Rodríguez M. Diffuse pulmonary meningotheliomatosis diagnosed by transbronchial lung biopsy. *Respiration*. 2013;86(2):145-48.

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