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Pulmonary Meningothelial-like Nodules (PMLNs) in a Patient With Unexplained Weight Loss

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Abstract

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INTRODUCTION: PMLNs represent an unusual clinical and pathological condition. These benign nodules are usually asymptomatic and represent incidental findings in surgical specimens or autopsies. Lesions contain monomorphic round cells forming epitheloid nests with immunohistochemical features of meningothelial cells. Nature of this process is thought to be reactive, however pathophysiology has not yet been elucidated.

CASE PRESENTATION: 51 year old female, former smoker, with a history of asthma and chronic allergic sinusitis was referred to pulmonary clinic for evaluation of progressive dyspnea and wheezing. Pulmonary function tests revealed restrictive ventilatory defect, decreased diffusing capacity, and a positive metacholine challenge. Patient also noted an unintentional 12 pound weight loss over six weeks associated with generalized fatigue. Chest computer

tomography revealed a right sided thyroid nodule; and multiple bilateral, less than 5 mm, cavitary lung nodules without mediastinal adenopathy. Age appropriate cancer screening including computed tomography of abdomen, mammography, PAP smear and colonoscopy were negative. Detailed autoimmune workup was negative. Thyroid nodule biopsy was negative for malignancy, thyroid function tests were normal. Bronchoscopy with transbronchial biopsies did not reveal the histological diagnosis. Patient was referred to thoracic surgery for a VATS lung biopsy. Results demonstrated PMLNs, which was confirmed by positive staining for progesterone receptors (PR) and epithelial membrane antigen (EMA). Patient's initial symptoms have improved on aggressive asthma and allergy therapy.

DISCUSSION: Previously reported incidence of PMLNs is 0.07% to 4.9% in autopsy studies. However, recent report suggests the incidence of PMLNs found incidentally in lung biopsy and lobectomy specimens resected for underlying primary lung tumors may be as high as 14% and 48%, respectively. Although PMLNs are morphologically similar to meningiomas, recent molecular pathologic studies showed different lineage-specific genetic pathways. In our case, the indication for invasive diagnostic procedure was dictated by evaluation for malignant, infectious and inflammatory disease; all which can present as multiple small cavitary lung nodules.

CONCLUSIONS: PMLNs should be considered a differential diagnostic possibility in case of diffuse, bilateral, small cavitary nodules noted on radiographic studies.

1) Mukhopadhyay S, El-Zammar O et al. Pulmonary Meningothelial-like nodules. New Insinghts Into a Common but Poorly Understood Entity. Am J Surg Pathol. 2009. 33:487-94.

DISCLOSURE: The following authors have nothing to disclose: Frantisek Sandor, Michal Kamionek, Amy Molis, Scott Kopec

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