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Pulmonary Actinomycosis Mimicking a Malignancy: Case Report

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Introduction: Actinomycosis is characterized with chronic and slowly progressive granulomatous inflammation. Approximately 15% of Actinomycosis infections is pulmonary actinomycosis. Pulmonary actinomycosis develops due to aspiration of oropharyngeal or gastrointestinal secretions into the airways. İt can lead to confusion with malignant and other infectious lung diseases. Mostly invasive methods are required for diagnosis.

Case Presentation: A 61-year-old male patient was addmitted to our emergency department with ' progressive cough ' and life threatining hemoptysis. He has been used oral antidiabetic for 3 years due to diabetes mellitus. On physical examination, localized ral at paravertebral area in right lung was detected. Chest X-ray showed wide right hilus. Thorax computed tomography showed a mass which was approximately 5x3.5 cm in the inferior hilar region of the right lung. In the rigid bronchoscopic examination, hemorrhage was seen from the middle lobe division of the right system. Fluorodeoxyglucose-positron emission tomography/computed tomography (FDG-PET/CT) was performed. A hypermetabolic lesion (37x23 mm) with the maximum standard uptake value (SUVmax) of 5 was seen. Right lower lobectomy and lymph node dissection was performed with thoracotomy. Histologic sections showed lymphohistiocytic cells and actinomyces colonies in the lumen around the dilated bronchi and in the lung parenchyma. The patient was accepted as pulmonary actinomycosis based on pathological findings.

Conclusion: The most common symptoms in patients with pulmonary actinomycosis are cough, sputum production, fever weight loss, night sweats and chest pain. Our case presented with massive hemoptysis and did not describe respiratory and/or constitutional symptoms before. Cases with recurrent hemoptysis or massive hemoptysis with concomitant constitutional symptoms in the literature have been reported. No cases of massive hemoptysis were found without chronic lung disease. FDG-PET/CT is used for the diagnosis and follow-up of malignant diseases and may cause false positive results in favor of malignancy in infectious diseases. The role of FDG-PET/CT in the diagnosis of pulmonary actinomycosis is not known. In our case, a hypermetabolic mass lesion with elevated FDG uptake was observed in the right lower lobe of the right lung. We would like to remind that there may be increased FDG uptake in infectious diseases and may incorrectly strengthen the preliminary diagnosis of malignancy. Pulmonary actinomycosis is frequently confused with malignancy, both clinically and radiologically. Pulmonary actinomycosis should be considered in patients with risk factors such as diabetes mellitus with acute clinical manifestation such as massive hemoptysis.

Keywords: Massive hemoptysis, pulmonary actinomycosis, pulmonary infection