



Case Report: Pneumonia Like Mass with Spontaneous Resolution

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Abstract

Background: Pneumonia can easily mimic malignancies. Pulmonary nodule findings raise concern for lung cancer. A single lung opacity less than 3 centimeters in diameter is referred to as a solitary pulmonary nodule (SPN). These nodules are sometimes incidentally discovered during routine computed tomography (CT) scans of the chest in relatively asymptomatic patients. We present an unusual case of pneumonia-like mass with spontaneous resolution.

Case: A woman, 38 years old, with a solitary pulmonary nodule which was found accidentally in the left lung upper lobe, without any respiratory symptoms in June 2021. In August 2021, a chest CT scan was done for evaluation and the solitary nodule of the left lung upper lobe had resolved spontaneously without any treatment. The patient was prepared for diagnostic bronchoscopy at Persahabatan Hospital with the findings of normal bronchi and branches. A bronchial washing was performed on the left B1+2 segment and cytology, fungal, microorganism and molecular tuberculosis examination were performed.

Discussion: Pulmonary solitary nodule in left lung upper lobe in the beginning and spontaneous resolution after 2 months evaluation without any specific treatment, consider the period of pneumonia. Whenever a patient is found to have an SPN, it is essential to determine the patient's risk for malignancy. It is important to consider any pulmonary nodule to be malignant or not, and how it presents on CT Imaging.

Conclusion: Pulmonary nodules may be found during pneumonia and may resolve spontaneously. The possibility of malignancy must still be considered. Awareness of the condition from the history is important to help reassure the patient about the disease even before the diagnostic procedure was made.

Keywords: pneumonia, solitary nodule, spontaneous resolution

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Submitted: September 21st, 2021

Accepted: April 10th, 2023

Published: July 28th, 2023

J Respir Indones. 2023

Vol. 43 No. 3: 221–3

<https://doi.org/10.36497/jri.v43i3.205>



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INTRODUCTION

Pneumonia is an acute lung parenchyma infection with presenting symptoms are cough, pleuritic chest pain, fatigue and loss of appetite. The characteristic of pneumonia is the involvement of the alveolar cavity, the more distal the infection, the greater the probability of bacterial infection, and the more severe the degree of disease.¹

Community-acquired pneumonia (CAP) can affect all age groups and is not always caused by bacteria but also by viruses or mechanical ventilation. Clinical assessment for disease history and physical examination is needed to determine the diagnosis. Risk factors and infections that cause CAP include agricultural animals, acquired immune deficiency syndrome (AIDS), alcohol aspiration, chronic obstructive pulmonary disease (COPD), and influenza.^{1,2} Infectious Disease Society of America

(IDSA) 2016 guidelines for the diagnosis of pneumonia recommend that identification of consolidation in chest radiographs is a gold standard to confirm the diagnosis. Other guidelines based on the British thoracic society (BTS) recommend assessing the full clinical picture in establishing the diagnosis of pneumonia. Patients with clinical pneumonia but no radiological abnormalities are recommended to repeat radiological imaging within the next 24–28 hours because one in 10 cases will develop radiographic evidence of pneumonia in the first 72 hours.¹

A solitary pulmonary nodule (SPN) was defined as a round opacity with a diameter of 3 cm that was found incidentally on radiological imaging. Benign SPN includes infectious granulomas and hamartomas while malignant nodules include lung cancer, carcinoid tumors and pulmonary metastases.³ These nodules pose diagnostic

sometimes incidentally discovered during routine CT scans of the chest in relatively asymptomatic patients. We present an unusual case of pneumonia-like mass with spontaneous resolution.

CASE

A 38-year-old woman was referred from the ENT clinic with a diagnosis of esophageal achalasia. The main complaint is difficulty swallowing since 4 years ago followed by weight loss of 26 kilograms in 4 years. The patient did not have symptoms of shortness of breath, cough, chest pain, fever or night sweats. The patient had no history of tuberculosis infection or previous history of cancer. A chest CT scan was taken on June 2021, it was found accidentally that there was a solitary nodule in the left lung upper lobe.



Figure 1. Thoracic CT-Scan was done in June 26th, 2021

The patient was prepared for diagnostic bronchoscopy and transbronchial lung biopsy at Persahabatan Hospital as a suspect solitary pulmonary nodule due to malignancy. In August 2021, an evaluating CT scan was performed for evaluating and the solitary nodule of the left lung upper lobe had resolved spontaneously without any specific treatment. The patient has been scheduled for a bronchoscopy procedure in September 2021. A bronchoscopy was performed on September 10th, 2021 with the findings of normal bronchi and the branches. A bronchial washing was performed in the left B1+2 segment and the specimen was examined for cytology, fungal, microorganism and molecular tuberculosis.



Figure 2. Thoracic CT Scan for evaluation was done in August 31st, 2021

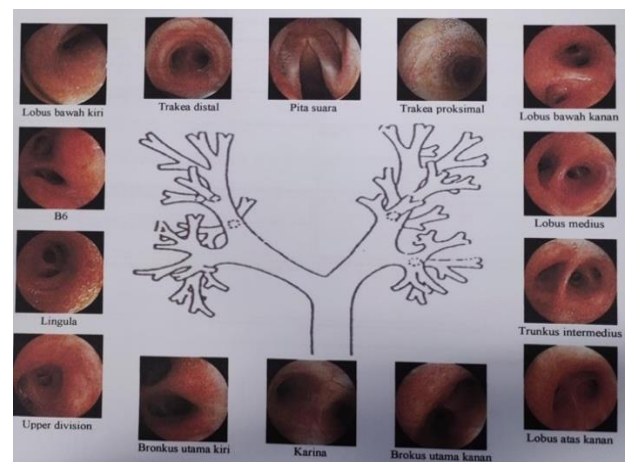


Figure 3. Bronchoscopy findings in September 10th, 2021

DISCUSSION

It is not easy to diagnose pneumonia. Anatomically, pneumonia is classified as bronchopneumonia or lobar pneumonia. Bronchopneumonia occurs when infection results in multifocal consolidation of the lung, while lobar pneumonia occurs when the area of consolidation is confined to the infected lobe. The differential diagnosis of pneumonia including pulmonary embolism, malignancy, or acute respiratory distress syndrome should be excluded. Identification of chest radiographic consolidation is the gold standard for radiological examination for the diagnosis of pneumonia, either on chest X-ray or chest CT scan. It is said that one-third of patients with pneumonia findings on chest X-ray do not have pneumonia findings on chest CT-Scan.^{2,3}

Radiologic findings suggesting lung cancer include a parenchymal mass but are not specific to

lung cancer and non-malignant disease because of similar radiological findings.⁴ The differential diagnosis should be made according to the presentation of signs and symptoms and radiologic finding evaluation. Pulmonary infections can easily mimic malignancy and tissue sample examination is required for a definitive diagnosis. Most primary malignant nodules are located in the upper lobes of the lung and two-thirds of metastatic lung nodules involve the lower lobes.³

In this report, the case in which the patient had a pulmonary solitary nodule in the left lung upper lobe in the beginning and spontaneous resolution after 2 months of evaluation without any specific treatment, considers the period of pneumonia. Whenever a patient is found to have an SPN, it is essential to determine the patient's risk for malignancy. It is important to consider whether any pulmonary nodule is malignant or not, and how it presents on CT Imaging.⁵⁻⁷

Some guidelines have detailed approaches for different types of nodules to distinguish between benign lesions and malignant nodules. Another case report shows a pulmonary nodule in metastatic renal cell carcinoma that resolved spontaneously without systemic steroid treatment, suggested mechanism is considered to be an immune response that may be evoked by surgery.⁵⁻⁷

LIMITATION

There are limitations in this case report. There were no data about sputum smear from this patient. The definitive cause of the nodule cannot be specified.

CONCLUSION

We described a 38-year-old woman with a pulmonary nodule in the left upper lobe which might be found during pneumonia with spontaneous resolution. The likelihood of malignancy must always be kept in mind. Awareness of the condition from the history is important to help reassure the patient about the disease even before the diagnostic procedure was made.

ACKNOWLEDGMENTS

None.

CONFLICT OF INTEREST

None.

FUNDING

None.

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