

## Clinical Image

Open Access, Volume 3

# Thoracic aortic pseudoaneurysm mimicking recurrence of lung cancer

Masahiro Kimura<sup>1\*</sup>; Fumihiro Miyashita<sup>2</sup>; Teruki Takeda<sup>1</sup>; Hiroshi Mabuchi<sup>1</sup>

<sup>1</sup>Department of Cardiology, Koto Memorial Hospital, Higashiomi, Japan.

<sup>2</sup>Department of Cardiovascular Surgery, Koto Memorial Hospital, Higashiomi, Japan.

\*Corresponding Author: Masahiro Kimura, MD, PhD

Department of Cardiology, Koto Memorial Hospital,  
 2-1Hiramatsu-cho, Higashiomi-shi, Shiga 527-0134,  
 Japan.

Tel: (+81) 749-45-5000, Fax: (+81) 749-45-5001;

Email: mkimura@kuhp.kyoto-u.ac.jp

Received: Nov 01, 2022

Accepted: Nov 17, 2022

Published: Nov 24, 2022

Archived: www.jcimcr.org

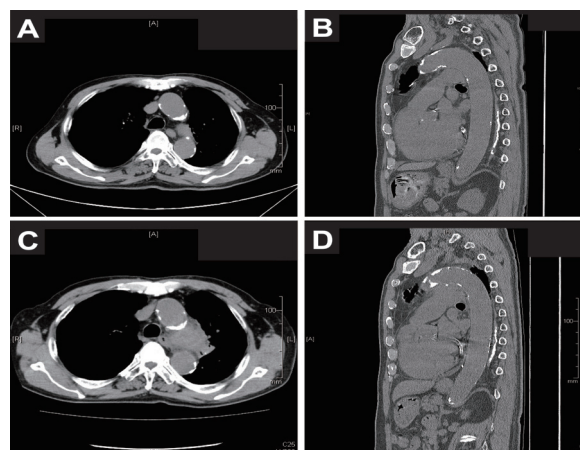
Copyright: © Kimura M (2022).

DOI: www.doi.org/10.52768/2766-7820/2170

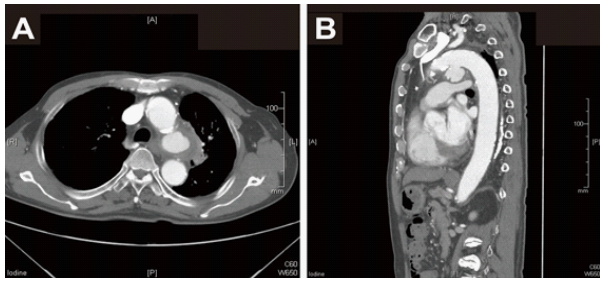
**Keywords:** Thoracic aorta; Pseudoaneurysm; Bias.

### Description

A man in his late 70's visited to a hospital with one day history of fever and cough. Eight years before, he underwent a left upper lobectomy due to stage IB lung cancer. He had taken follow-up Computed Tomography (CT) exams annually and no abnormality was detected 9 months earlier (Figure 1A and B). Laboratory data showed elevated C-reactive protein, 9.7 mg/dL and D-dimer, 2.5 µg/mL with normal white blood cell counts. A chest CT on a visit showed a mediastinal mass near the resected site of left upper lobe (Figure 1C and D) with slight ground-glass opacity around it. Local recurrence of lung cancer with mild pneumonia was suspected, then an oral antibiotic was administered. His fever was alleviated and contrast-enhanced CT was performed one week later for detailed examination, which revealed a ruptured pseudoaneurysm of thoracic aorta (Figure 2A and B). Semi-urgent total arch replacement was completely achieved although it was tough due to severe adhesion of sur-



**Figure 1:** Unenhanced CT images of lung mass on 9 months before (A,B) and on the initial assessment (C,D).



**Figure 2:** Contrast-enhanced CT images of thoracic aortic pseudoaneurysm.

rounding tissue. He was discharged without any complications on the 30th postoperative day.

Contained rupture of a thoracic aortic aneurysm is a rare condition but usually calls for an emergent repair because of high mortality rate. It is usually accompanied by a sudden-onset acute pain. We could not differentiate ruptured aneurysm from cancer recurrence by unenhanced CT images for the initial assessment. There are a few case reports of thoracic aortic aneurysm that was misrecognized as lung cancer [1,2] while lung cancer was also misrecognized as aortic aneurysm [3]. In our case, local adhesion due to previous surgery seemed to fortunately prevent complete rupture of thoracic aneurysm although postoperative state led to a cognitive bias for the misdiagnosis. Contrast-enhanced CT should be considered soon after the mass was detected in contact with aorta even if a typical chest or back pain is absent.

**Conflict of interest:** The authors declare that they have no conflict of interest.

### References

1. Che GW, Chen J, Liu LX, et al. Aortic arch aneurysm rupture into the lung misdiagnosed as lung carcinoma. *Canadian journal of surgery.* 2008; 51: E91-E92.
2. Takahara Y, Nishiki K, Nakase K, et al. Ruptured pseudoaneurysm of the thoracic aorta mimicking lung cancer: A case report. *Thoracic cancer.* 2021; 12: 685-689.
3. Lin F, Yang M, Guo C, et al. Lung cancer mimicking aortic dissecting aneurysm in a patient with situs inversus totalis. *Thoracic cancer.* 2016; 7: 254- 256.