An unusual case of shortness of breath: Aortic Arch Pseudo-Aneurysm

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ABSTRACT Herein, we present a rare case of shortness of breath caused by massive trachea deviation due to a giant penetrating atherosclerotic ulcer of the aortic arch that simulates a lung lesion. It is of clinical and educational benefit to highlight the fact that aortic arch masses can grow silently to massive sizes and create mass effect to surrounding organs.

KEYWORDS penetrating atherosclerotic ulcer, aortic arch, shortness of breath

Case report

An 86-year-old female with multiple medical comorbidities presented to the emergency department complaining of shortness of breath. The patient denied any chest or back pain. On the physical exam she was cachectic and frail with a BMI of 17.6; however, the remaining of the examination was unremarkable.

A CXR (Figure 1) revealed a large opacifying mass in the upper mediastinum causing significant deviation of the trachea to the right hemithorax. A chest CTA verified the presence of a 7.3cm aortic arch pseudo-aneurysm associated with a penetrating atherosclerotic ulcer (Figure 2A-2B). The entire thoracoabdominal aorta was ectatic and dilated. The patient and the family refused any further surgical interventions.

Discussion

Penetrating atherosclerotic ulcers (PAUs) represent approximately 2-7% of all acute aortic syndromes1. They originate from atherosclerotic lesions involving the intimal layer of the aorta which ulcerate and penetrate through the internal elastic lamina into the media leading to intramural hematoma, dissection, or into the adventitia leading to pseudo-aneurysm formation or rupture.

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Figure 1: Antero-posterior Chest Radiograph reveals a large opacifying mass of superior mediastinum causing mass effect and tracheal deviation to the right side.

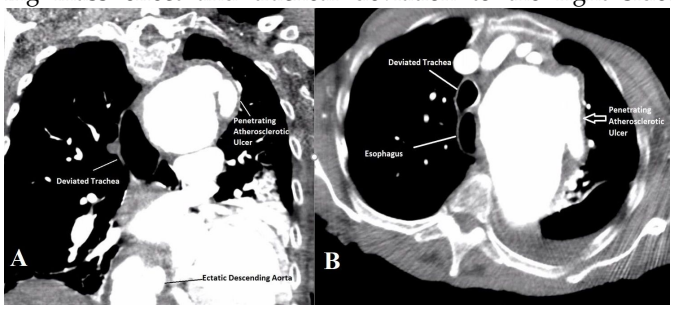

Figure 2: Coronal (2A) and Axial CT (2B) view through the level of the aortic arch reveals a large penetrating atherosclerotic ulcer and associated pseudoaneurysm of the aortic arch causing the mass effect to the trachea and right deviation. There is no active extravasation.

Conclusion

Many of the patients are usually asymptomatic. Surgical or endovascular intervention is recommended in patients with low operative risk.

Authors' Statements

Competing Interests

The authors declare no conflict of interest.

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