



Kommerell's Diverticulum Masquerading in a Right Aortic Arch: A Vascular Surprise

MULTIMODALITY
MUSEUM IMAGE

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ABSTRACT

Kommerell's diverticulum (KD) is a rare vascular anomaly characterized by aneurysmal dilation of the descending aorta at the origin of an aberrant subclavian artery, which can occur in either a right- or left-sided aortic arch. Aberrant right subclavian arteries are found in approximately 0.5% to 2% of the population while aberrant left subclavian arteries are less common, occurring in only 0.04% to 0.4%. KD is associated with aberrant subclavian arteries in 60% to 82% of cases. It is often identified incidentally during imaging studies performed for unrelated reasons, which contributes to the limited understanding of its natural progression. However, KD carries significant risks, including a 53% chance of aneurysm rupture and a 19% incidence of aortic dissection. As a result, surgical management is generally recommended. Although no standardized treatment exists, options include thoracic endovascular aortic repair, hybrid procedures, and open repair. Intervention is typically advised when the orifice diameter exceeds 3 cm and depth exceeds 5 cm due to elevated rupture risk. We present a case of incidentally detected KD originating from a right aortic arch with an aberrant left subclavian artery.

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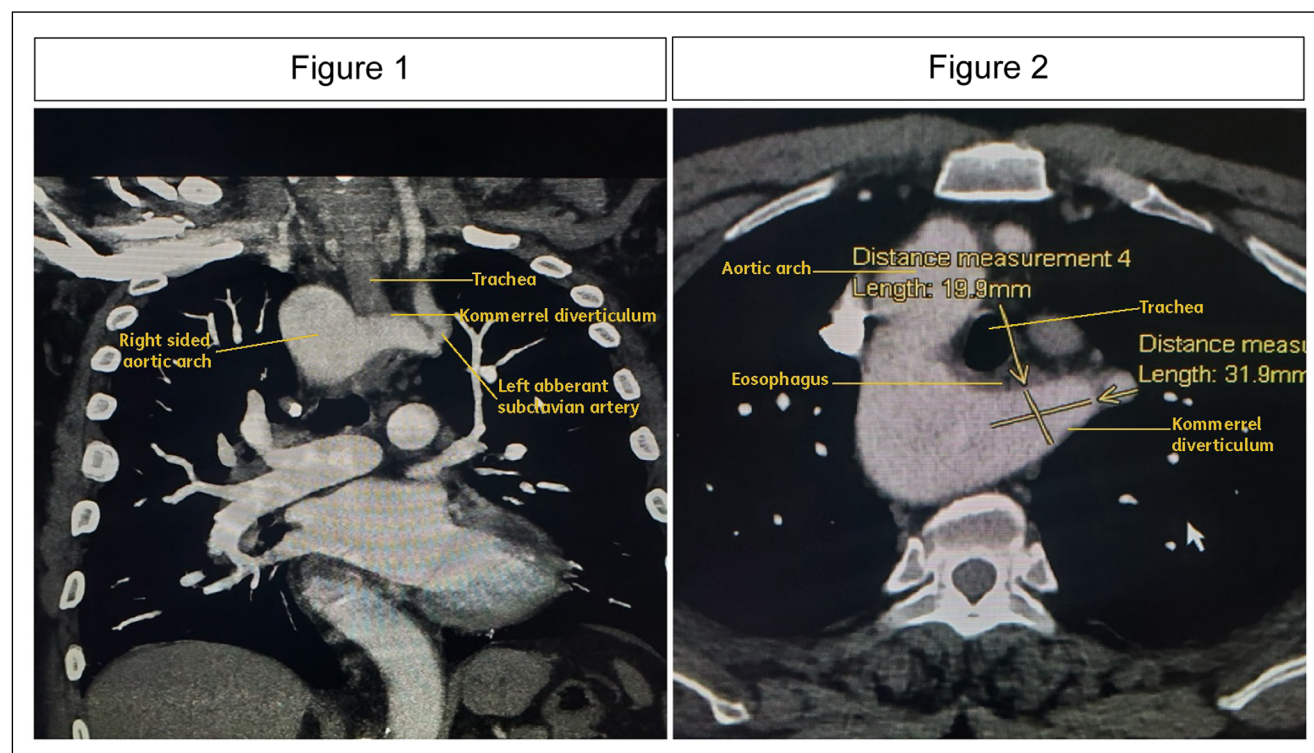
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KEYWORDS:

Kommerell's diverticulum;
aberrant left subclavian artery;
right aortic arch; vascular
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Figures 1 and 2 Axial and coronal maximum intensity projection (MIP) images of contrast-enhanced computed tomography (CECT) demonstrate a right-sided aortic arch with an anomalous origin of the left subclavian artery. There is evidence of saccular dilatation at its origin, consistent with Kommerell's diverticulum.

A 58-year-old male with a history of hypertension and atrial fibrillation presented with substernal chest pain and sinus tachycardia. He had no previous history of cardiovascular disease. A CT angiogram was performed to rule out pulmonary embolism, which incidentally revealed a right-sided aortic arch with an aberrant left subclavian artery and associated Kommerell's diverticulum as shown in [Figures 1](#) and [2](#). The diverticulum was causing mild tracheal and esophageal compression. The patient denied symptoms such as dysphagia or odynophagia. Transthoracic echocardiography revealed no valvular abnormalities. Coronary imaging and stress testing were unremarkable. Although surgical follow-up was recommended due to the anatomic findings, the patient left against medical advice.

ETHICS AND CONSENT

Written informed consent was obtained from the patient for the publication of this case report. The patient was

shown the manuscript and accompanying images and consented to their publication.

COMPETING INTERESTS

The authors have no competing interests to declare.

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