

CIRCUMFLEX RETRO-OESOPHAGEAL LEFT AORTIC ARCH AND RIGHT DESCENDING AORTA: A NEW VASCULAR RING ANOMALY IN A DOG

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Introduction:

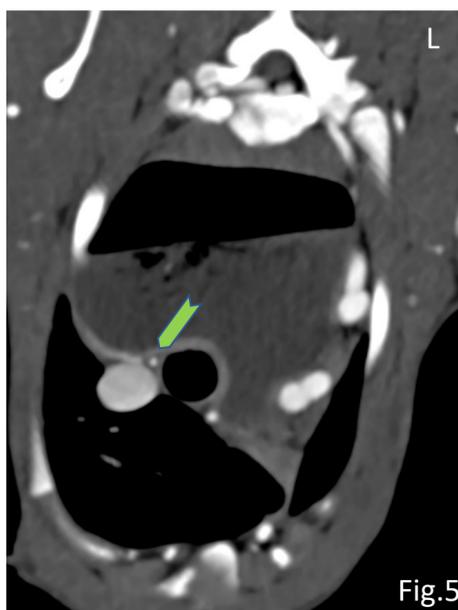
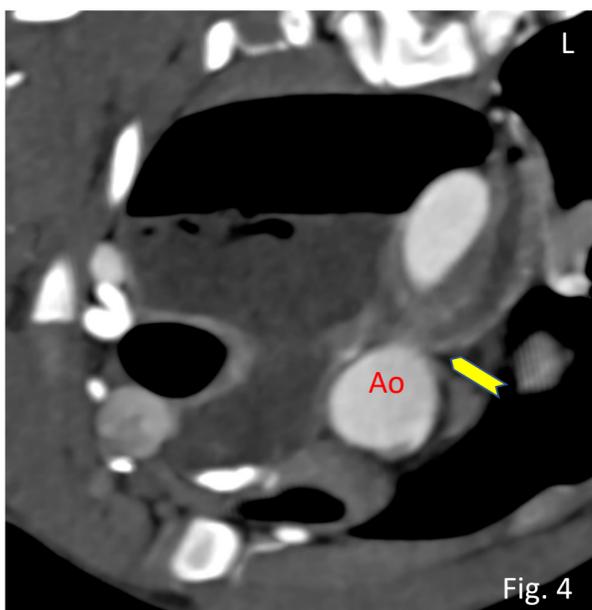
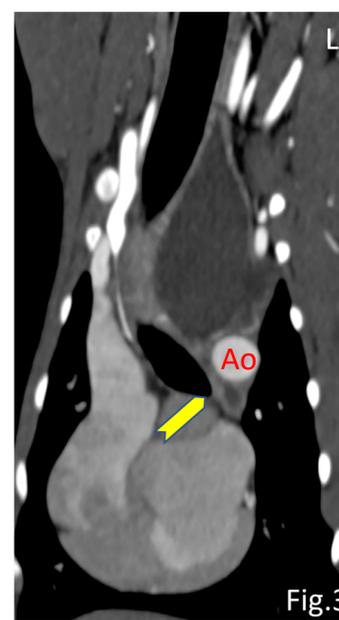
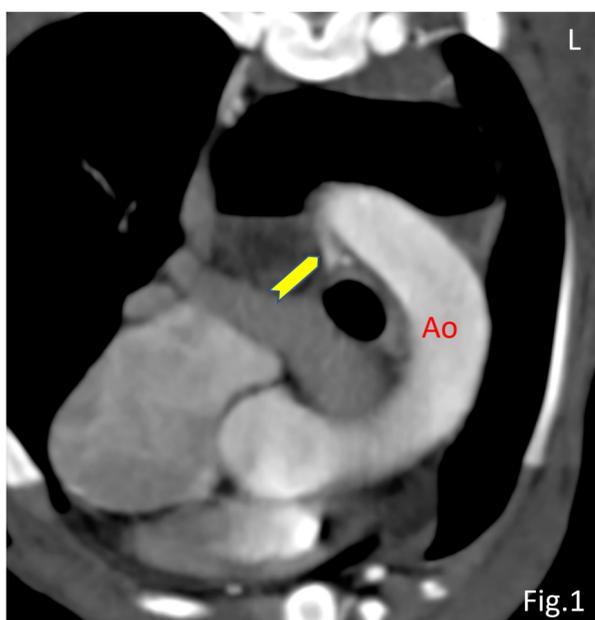
This report describes the computed tomographic findings of a dog with a vascular ring anomaly that has not been described yet.

Methods:

A 10-month-old male entire crossbreed dog underwent a computed tomographic angiography (CTA) for clinical signs of chronic regurgitation.

Results:

The aortic arch ascended to the left of the trachea and crossed caudal to the oesophagus to the right side of the vertebral column (Figures 1, 2, 3, 4: Ao). At the level of the aortic arch, the oesophagus passed through a narrow space in between the trachea and the aortic arch (Fig. 1, 3, 4, *yellow arrow*). A partially patent right ductus arteriosus (PDA) (Fig. 2, *red arrow*) was present just caudally to the oesophageal strangulation. Additionally, the right subclavian artery exhibited a stenotic origin (Fig. 5, *green arrow*). Consequently, the trachea was displaced to the right. The complete ring was formed by the retro-oesophageal segment of the aortic arch dorsally; by the left sided segment of the aortic arch on the left; by the main pulmonary artery ventrally and by the right-sided PDA on the right.



Scan the QR code to watch the CTA movie.

Discussion:

This condition has very rarely been described in humans, but not in dogs. The left circumflex aortic arch likely results from preservation of the proximal left fourth arch, a segment of the right sixth arch and the distal portion of the right fourth arch. The dextro-position of the descending aorta is induced by the persistence of the right distal dorsal aorta and the right PDA. In case of a right PDA or right subclavian malformation, the ring is complete and symptomatic. Complex trans-positioning surgery can be performed in humans, but was deemed as too risky in this dog, who was treated conservatively with a poor long-term prognosis. In conclusion, we suggest that circumflex retro-oesophageal left aortic arch and right descending aorta should be recognized as a rare vascular ring disorder.

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