

Incomplete Vascular Ring: Left Aortic Arch With Aberrant Right Subclavian Artery Arising From A Kommerell's Diverticulum

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Citation

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Abstract

A 54-year-old man was undergoing screening for peri-operative PE was found to have an asymptomatic vascular ring formed from a left aortic arch and an aberrant right subclavian artery arising from a Kommerell's diverticulum. The patient was asymptomatic of this and did not require treatment.

INTRODUCTION

Vascular rings are rare congenital malformations due to developmental failure of the embryological aortic arches. Diagnosis usually occurs in the first year of life.ⁱ Although most commonly presenting with stridor, associated symptoms include recurrent upper respiratory tract infections, cough and dysphagia. Five types are described in literature: double arch, right arch with left ligamentum, left arch with aberrant right subclavian, pulmonary sling and innominate compression. The most common is left arch with an aberrant right subclavian, with an incidence of 1-2%.ⁱⁱⁱ They are associated with a number of other anomalies, with 29% also having cardiac anomalies, as well as associations with various congenital syndromes.

CASE PRESENTATION

We present the case an incidentally found incomplete vascular ring in a 54-year-old male admitted for elective surgical revascularisation. This patient had never previously described any symptoms of dyspnoea, stridor nor dysphagia. His operation was complicated by sternal dehiscence, which precipitated new onset dyspnoea and tachycardia. This was investigated with computed tomographical pulmonary angiogram.

The imaging demonstrated an incomplete vascular ring. From a left sided aorta, a common origin for both common carotid arteries forms the first arch branch. The second arch branch is the left subclavian artery. This is followed by a Kommerell's diverticulum with an aberrant right subclavian

artery following a retro-oesophageal tract.

Although imaging demonstrates mild external compression of the oesophagus, the patient was asymptomatic and it was decided that surgical management was not appropriate. The respiratory symptoms and tachycardia resolved with repair of his sternum.

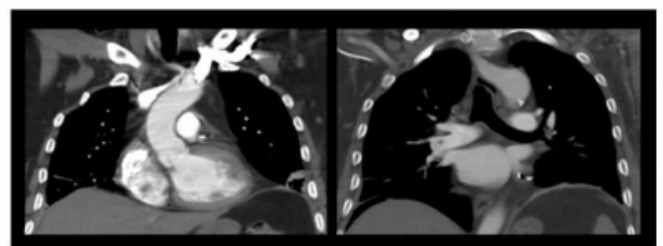
Figure 1

Transverse views: incomplete ring



Figure 2

Coronal views: common carotid origin and aberrant right subclavian



CONCLUSIONS

Patients with vascular rings often present at a young age

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with respiratory or upper-gastrointestinal symptoms owing to extrinsic compression of these structures. In this case, the adult patient was asymptomatic and this was an incidental finding investigating other issues. He also did not demonstrate any associated congenital anomalies and did not require correction.

References

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