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Case Report

Case of Undeveloped Descending Aorta Diagnosed by Computerized Tomography Angiogram

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Abstract: A 12-years old male reported with frequency of shortness of breathing was scanned by 64 slices Computed tomography (CT). A computerized tomography angiogram (CTA) revealed that the arch of the aorta ended after giving its three branches (brachiocephalic, left common carotid, left subclavian arteries) and the pulmonary artery become as the abdominal aorta.
Keywords: Descending Aorta, CTA

INTRODUCTION

The descending aorta is part of the aorta, the largest artery in the body. The descending aorta begins at the aortic arch that runs down through the chest and abdomen [1].

Development of the aorta occurs during third week of gestation [2, 3]. The development is acomplex process. It is associated with the formation of the endocardial tube (day 21), which lends itself to a variety of congenital variants [3].

Computed tomographic angiography (CTA) is a noninvasive modality for evaluating the vascular system and planning treatment strategies [4].

Here we are reporting a case Undeveloped Descending Aorta Diagnosed by Computerized Tomography Angiogram

CASE REPORT

A 12-years old male was referred to the X-ray department complaining of short of breathing, high pulsation in the head and upper trunk and low pulsation in abdomen and lower limbs.

His past history reported frequency of shortness of breathing (SOB). Physical examination suggest that there is Fallot's tetralogy. The patient was scanned by 64 slices Computed tomography (CT) and the image of the patient is shown in (Fig 1)

A computerized tomography angiogram (CTA) revealed that the arch of the aorta ended after giving its three branches (brachiocephalic, left common carotid, left subclavian arteries) and the pulmonary artery become as the abdominal aorta (Fig 2).

Figure 1: CT Angiogram of the thoracic aorta

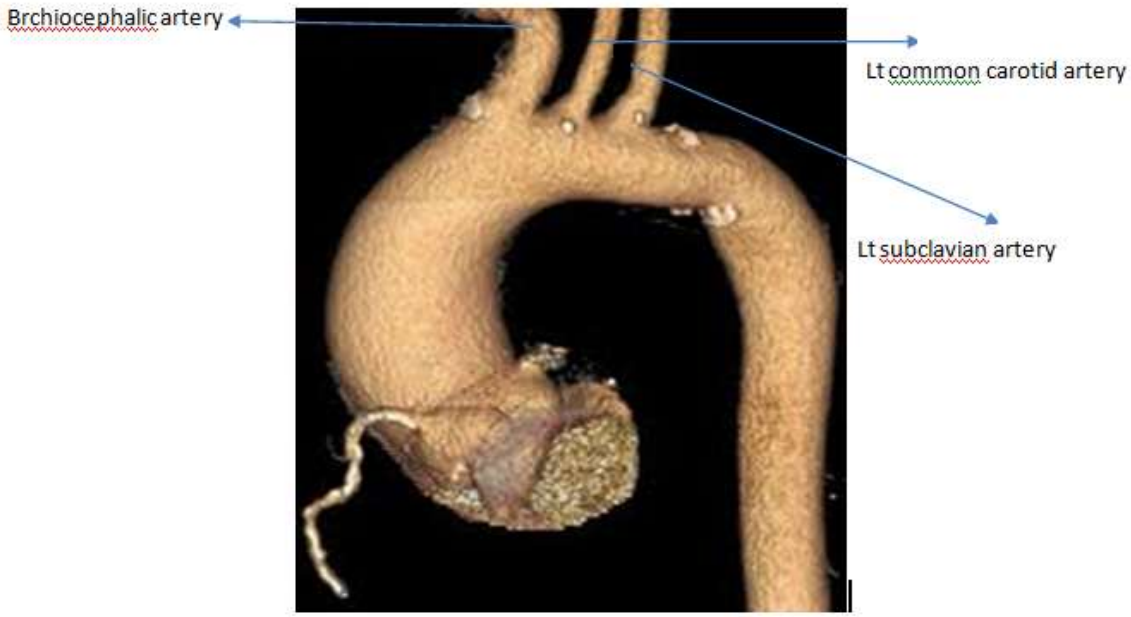

Fig. 2: Diagram shown the arch of aorta and its branches

DISCUSSION

Isolated variations in anatomy of the aortic arch and its branches are commonly asymptomatic. However, certain anomalies may cause clinically significant symptoms, which often arise from compression or pressure effects on the trachea or oesophagus. An aberrant course of the right subclavian artery compressing the oesophagus is a classic example of this. This "artery lusoria" results in "dysphagia lusoria" (derived from the Greek lusus naturae meaning "trick of nature") and follows persistence of the right dorsal aorta with obliteration of the fourth arch [5].

The appearances of the various aortic arch anomalies on CT were described in several reports in the literature [6-8]. Multi Detector Computerized Tomography acquisition allows multiplanar reconstructions (MPR) that provide accurate delineation of arch anatomy and it considered to depicts the thoracic aorta noninvasively and in exquisite detail. Numerous congenital anomalies of the aorta can be diagnosed with this imaging technique, including anomalous arch branching patterns and configurations. CT also can be used to establish situs and L- versus D-looping of the great vessels [9]. A combination of axial, 2D reformatted, and 3D reconstructed images can be used to accurately depict these anatomic relations [10].

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