Right Aortic Arch with Aberrant Left Subclavian Artery; Accompanied with Crossed Pulmonary Arteries: A Rare Association

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Dear Editor,

A nine-year-old female was referred for the evaluation of murmur. She had a history of frequent lower respiratory tract infections. There were no complaints of esophagus compression such as resistant vomiting or dysphagia. There was no finding of compression in esophagus. Transthoracic echocardiography revealed a right aortic arch, a small restrictive inlet ventricular septal defect and crossed pulmonary arteries. Transthoracic echocardiography failed to visualize the branches of aortic arch. She underwent computerized tomography (CT) and it determined a right aortic arch. The left common carotid artery was the first main artery to arise from the arch, is followed by the right common carotid artery, right subclavian and left subclavian arteries. The aberrant left subclavian artery was originated from a Kommerell’s diverticulum at the distal part of aortic arch which compressed the esophagus (Figure 1). CT also showed the crossed pulmonary arteries (Figure 1). Right aortic arch and aberrant left subclavian artery that originates from Kommerell’s diverticulum is a rare condition that is diagnosed in approximately %0.1 of the population (1). However, this condition is mostly asymptomatic in general, some patients may present with the compression symptoms to the esophagus and trachea. Children who present with airway symptoms such as a combination of stridor, apnea, cyanosis, or recurrent infection. (2,3). Crossed pulmonary arteries (CPAs) is an abnormality in which the ostium of the left pulmonary artery originates superior to the right pulmonary artery and to its right. It is generally accompanied by other congenital heart defects, extra cardiac anomalies, and certain genetic problems. To date, only a few cases have been reported, and most of these cases have been associated with complex cardiac abnormalities and genetic syndromes (4). This is the first case of right aortic arch associated with aberrant left subclavian artery and crossed pulmonary arteries from Turkey.
A Letter to the Editor


Figure 1. (A) Axial CT angiogram at the level of superior thorax. Right arcus aorta and at the distal end of the arcus Kommerell’s diverticulum (arrow) are seen. (B) Coronal CT angiography; Aberrant left subclavian artery. Kommerell’s diverticulum (short arrow) gives the branch of left subclavian artery (long arrow). (C) Sagittal thorax CT angiogram; Kommerell’s diverticulum (white arrow) and esophagus (black arrow); compression of the esophagus by diverticulum. CT angiogram axial (D) and coronal (E) images; left pulmoner artery that’s origin is right portion of the pulmonary trunk superior to the right pulmonary and the right pulmonary artery’s origin is the left portion of the pulmonary trunk. VSC: Vena cava superior, AsA: Asendan aorta, PT: Pulmonary trunck, LPA: Left pulmonary artery, DA: Desenden aorta, AA:arcus aorta, RPA: right pulmonary artery.

References