

IMAGES

in PAEDIATRIC CARDIOLOGY

Johnston TA, Farra H. Double Lumen Aortic Arch in Association with Tetralogy of Fallot. *Images Paediatr Cardiol* 2006;26:5-7

Division of Pediatric Cardiology, Department of Pediatrics, University of Washington Children's Hospital & Regional Medical Center, Seattle, Washington.

MeSH

Aorta Heart defects, congenital

Tetralogy of Fallot

The patient, an 11-month-old girl born with Cornelia de Lange syndrome and tetralogy of Fallot, underwent placement of a right modified Blalock-Taussig shunt as a neonate. She had done well clinically with acceptable oxygen saturations. Echocardiography suggested an abnormality of the aortic arch. She underwent cardiac catheterization to address branch pulmonary artery stenosis prior to complete repair. Angiography demonstrated the rare finding of a double lumen aortic arch.

The double lumen is felt to arise from persistence of the embryologic fifth aortic arch.¹ The fifth arch is situated inferior to the true aortic arch. The brachiocephalic arteries arise from the true aortic arch. This may be an isolated abnormality and have no clinical significance. This case illustrates an association with tetralogy of Fallot. It also has been described in association with coarctation of the aorta.²

Figure 1: Color Doppler image echocardiographic image from the suprasternal notch demonstrates the separation of flow into the double lumens. Two separate color signals represent the parallel lumens with the true arch superior (arrow) to the persistent fifth arch (asterisk).

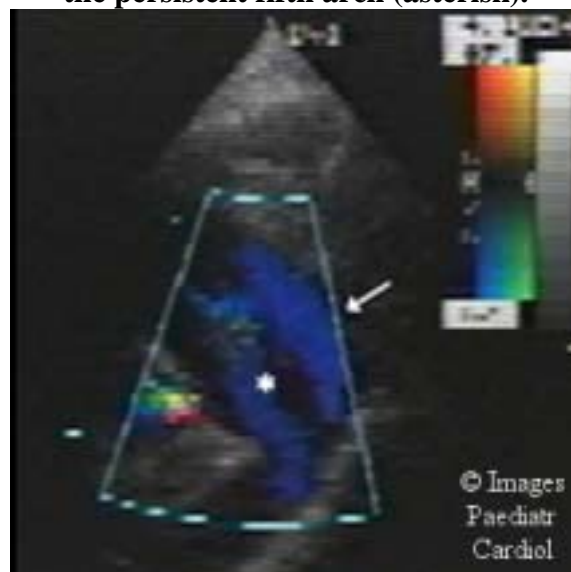


Figure 2: Echocardiogram image from the suprasternal notch demonstrates the double lumen aorta. The superior arch (arrow) gives rise to the head and neck arteries. The persistent fifth arch (asterisk) is directly inferior to the true aortic arch.

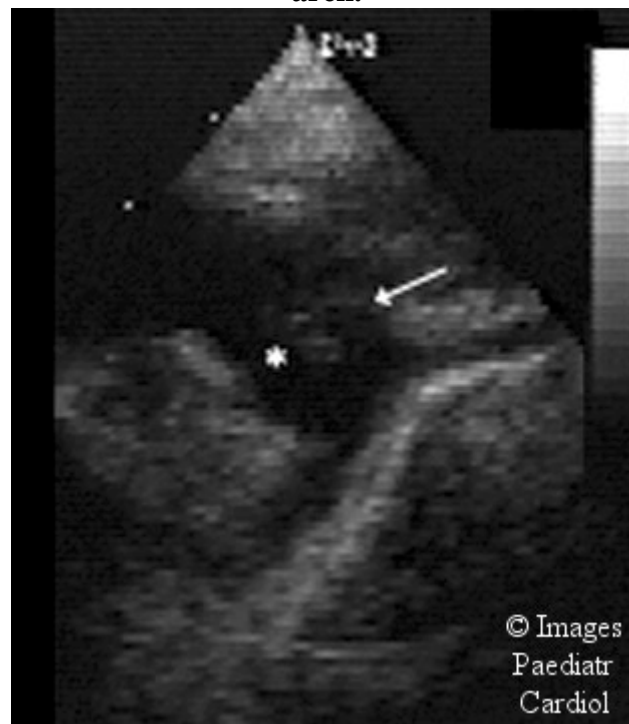


Figure 3: Lateral projection of the left ventricular angiogram demonstrates the double lumen left aortic arch. The persistent fifth arch (arrow) runs inferior and parallel to the true aortic arch (*). The pulmonary artery fills from the right modified Blalock-Taussig shunt.



References

1. Van Pragh R, Van Pragh S. Persistent fifth arterial arch in man. Congenital double lumen aortic arch. *Am J Cardiol* 1969;24:279-282.
2. Culham JAG, Reed MH. Persistent fifth aortic arch with coarctation of the aorta. *Cardiovasc Intervent Radiol* 1985;8:137-139.

Contact information

[Troy Alan Johnston, M.D.](#)

Children's Hospital & Regional Medical Center

4800 Sand Point Way, N.E.

P.O. Box 5371/4G-1

Seattle, Washington 98105-0371

Phone: 206 987-2015

Fax: 206 987-3839

Troy.Johnston@seattlechildrens.org

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