usually temporary reduction in MR without changing significantly the long-term prognosis. The future role of new adjunctive surgical techniques and of percutaneous interventions is not yet determined. Importantly, clinical randomized trials are mandatory to provide guidelines with improved level of evidence.

Conflict of interest: none declared.

References

The list of references is available in the online version of this paper.

CARDIOVASCULAR FLASHLIGHT

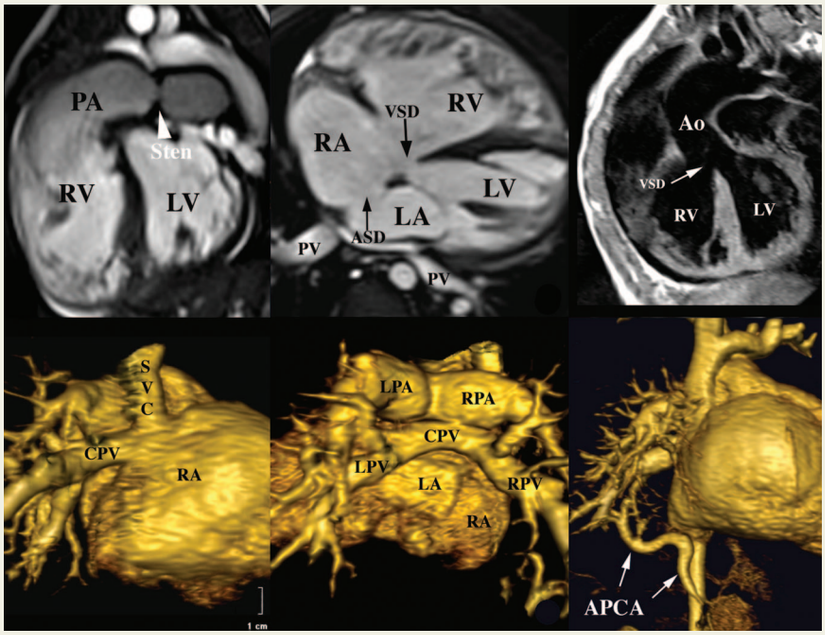
doi:10.1093/eurheartj/ehq312
Online publish-ahead-of-print 2 September 2010

Tetralogy of Fallot with absent pulmonary valve, supracardiac total anomalous pulmonary venous connection, and infradiaphragmatic systemic to pulmonary collateral artery

Patrick O. Myers[1,2]*, Afksendiyos Kalangos[1], Dominique Didier[3], and Cécile Tissot[4]

[1]Division of Cardiovascular Surgery, Department of Surgery, Geneva University Hospital and Geneva University Medical School, 24, rue Micheli-du-Crest, 1211 Geneva 14, Switzerland; [2]Division of Cardiac Surgery, Children's Hospital Boston and Harvard Medical School, Boston, MA, USA; [3]Division of Cardiovascular Radiology, Geneva University Hospital, Geneva, Switzerland; and [4]Division of Pediatric Cardiology, Children's University Hospital, Geneva, Switzerland

* Corresponding author. Tel: +41 22 372 7624, Fax: +41 22 372 7634, Email: patrick.myers@hcuge.ch



A 2-year-old boy was referred for cyanosis and clinical heart failure. Transthoracic echocardiography showed Tetralogy of Fallot (TOF) with a large malalignment type ventricular septal defect (VSD) and features typical of absent pulmonary valve syndrome (APVS). There was severe pulmonary stenosis (Sten) (peak systolic gradient of 85 mmHg) with diastolic regurgitation, associated with aneurysmal dilatation of the pulmonary artery branches. There was also supracardiac total anomalous pulmonary venous connection (TAPVC) to a non-obstructed confluent pulmonary vein (CPV) leading to the right atrium (RA) at the junction of superior vena cava (SVC) and a secundum atrial septal defect (ASD). A tubular structure was visualized between the abdominal aorta and the inferior vena cava, with continuous high-velocity systolo-diastolic flow. Cardiac magnetic resonance imaging confirmed all these anomalies and showed that this structure was an aorto-pulmonary collateral artery (APCA) originating from the abdominal aorta and vascularizing a pulmonary sequestration. Percutaneous embolization of the infradiaphragmatic APCA was done using a vascular plug followed by surgical transatrial patent foramen ovale enlargement, redirection of the TAPVC to the left atrium using a pericardial patch, VSD patch closure, and right ventricular outflow tract reconstruction using a valved conduit.

Post-operatively, the patient presented transient junctional ectopic tachycardia and low cardiac output syndrome in the setting of a respiratory syncytial virus infection, treated successfully.

Absent pulmonary valve syndrome is a relatively rare variant of TOF and has been reported in only four patients in association with TAPVC. The association of TOF/APVS with TAPVC and APCA has never been previously reported to our knowledge.