Echocardiographic Features of Adult Tetralogy of Fallot with Natural Palliative Correction by Patent Ductus Arteriosus

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A thirty-year-old man with the diagnosis of the tetralogy of Fallot and patent ductus arteriosus was admitted to our hospital because of a syncope. He reported no previous symptoms. We diagnosed adult tetralogy of Fallot, which included all four characteristic anomalies: ventricular septal defect, overriding aorta, pulmonary artery stenosis, and right ventricular hypertrophy. The associated persistent ductus arteriosus and the presence of compensatory arteriovenous communications produced a continuous flow load on the left ventricle, which resulted in moderate left ventricular hypertrophy, but without symptoms of pulmonary congestion or cardiac decompensation. Anatomic diagnosis and hemodynamic assessment were established by transthoracic and transesophageal echocardiography, with incidental finding of a quadricuspid aortic valve. To the best of our knowledge, our case of the adult form of Fallot's tetralogy associated with both patent ductus arteriosus and quadricuspid aortic valve is the first one ever described. It is well known that patients with tetralogy of Fallot who do not undergo operation in childhood have short survival, which depends predominantly on the degree of pulmonary artery stenosis and early development of collateral circulation to the lungs. Long-term persistence of natural aortopulmonary anastomosis with systemic collateral circulation to the lungs and remodeling of the heart, with better hemodynamic balance as well as the presence of mild pulmonary artery stenosis probably enhanced the survival of our patient.

Key words: aortic valve; echocardiography; heart defects, congenital; patent ductus arteriosus; tetralogy of Fallot