Outcome of arterial switch operation for Taussig Bing anomaly versus transposition of the great arteries and ventricular septal defect

Department of Cardiovascular Surgery, Acibadem University Atakent Hospital, Küçükçekmece, İstanbul (1);
Department of Cardiovascular Surgery, Mehmet Akif Ersoy Hospital, Küçükçekmece, İstanbul (2);
Department of Anesthesiology, Acibadem University Atakent Hospital, Küçükçekmece, İstanbul (3);
Department of Pediatric Cardiology, Acibadem University Atakent Hospital, Küçükçekmece, İstanbul (4)

OBJECTIVE: Patients with Taussig Bing anomaly (TBA) usually considered to have increased mortality and morbidity when compared to those with transposition of the great arteries and ventricular septal defect (TGA+VSD) after arterial switch operation (ASO). In this report we analyze our results in those patients.

METHODS: Between November 2010 and December 2015, 94 ASO was performed. Among them 36 patients (38.2%) had associated VSD and was diagnosed as TBA (n=14) or TGA+VSD (n=22). Median ages were 17 days (range: 6-62 days) and 16 days (range: 2 days-7 months) respectively (p=NS). Six patients had aortic arch anomalies (coarctation n=4; interruption n=2) in TBA group (42.8%), while 3 patients had aortic coarctation in TGA+VSD group (13.6%) (p=0.11). Coronary anomaly was present in 3 (21.4%) and 6 (27.2%) patients respectively (p=NS). All VSDs were large in size and subpulmonary (except one with multiple VSD) in TBA group. Nevertheless VSDs were large in 14 (multiple VSD n=3) and moderate in 8 patients in TGA+VSD group. Only 1 patient had previous palliative surgery in TGA+VSD group. Besides ASO, VSD closures were performed via transneoaortic approach in 10 patients with TBA. Others had transatrial approach. Pericardial patch was used in most of the patients except 7 patients who had moderate sized VSD, underwent primary VSD closure. One patient in each group had additional pulmonary banding because of multiple VSD or apical VSD.

RESULTS: Early mortality was 1 patient in TBA group and 2 patients in TGA+VSD group (mortality: 7.1% vs 9% respectively; p=NS). Delayed sternal closure was used in 85.7% and 72.2% respectively; (p=NS). One patient needed ECMO support in each group. One of them (in TBA group) weaned and discharged uneventfully. Long duration of ventilatory support was necessary for 3 (21.4%) and 4 patients (18.1%) respectively (p=NS). One patient underwent permanent pacemaker implantation in TGA+VSD group. One patient in TBA group had VAC therapy due to mediastinitis.

CONCLUSIONS: Although the incidence of aortic arch anomalies is higher in TBA group, early and intermediate term outcomes are similar with TGA+VSD group.