

Palliative pulmonary balloon valvuloplasty for symptomatic infants with tetralogy of Fallot and unfavourable for total surgical correction

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Objective: We aimed to evaluate the results, efficacy and utility of palliative pulmonary balloon valvuloplasty (PPBV) procedure performed on symptomatic infants with tetralogy of Fallot (TOF) unfavourable for total surgical correction, which is generally preferred about or after one-year old age in our center

Methods: Study population included 40 TOF patients all under one year of age underwent PPBV between July 2005 and November 2010. The indications for PPBV are hypoxia (oxygen saturation < 70%) and/or McGoon index <1.7.

Results: PPBV procedure was successfully performed in all forty patients. Mean oxygen saturation increased from 66.1% to 83.5% after the procedure which was statistically significant. No mortality and significant complication has occurred due to procedure. Low saturation temporarily occurred in two patients immediately after the procedure. During follow-up, 11 patients had total repair directly without any other procedure and 19 patients had a second cardiac catheterization. In patients who had a second cardiac catheterization, statistically significant increase was detected between the McGoon indexes, the pulmonary annulus diameters Z-scores, and the right and left pulmonary artery diameters Z-scores. After the second cardiac catheterization, 17 more patients had total repair. When we consider all the patients, 28 of them (73.6%) were able to have total repair without any additional palliation, but only five patients required a BT shunt operation in spite of successful PPBV. The total repair time was delayed median 12.5 months (range: 2-23) for these 28 patients.

Conclusion: PPBV procedure could be considered an effective, beneficial and safe procedure in TOF patients that eliminates hypoxia, ensures the development of the pulmonary vascular bed and postpones the point at which total repair is done.