

Arrhythmias and heart failure in adults with isolated corrected Transposition of the Great Arteries

*Walton C., Martin-Bonnet C., Bozio A., Chakoub S., Galoin Bertail C., Perouse de Montclos T., Bakloul M., Durousset C., Leconte C., Di Filippo S.
Pediatric Cardiology, Cardiovascular Hospital, Lyon, France*

The objective of this study was to assess arrhythmias and heart failure occurrence in adults with isolated corrected TGA (ccTGA).

Material and Methods: All patients diagnosed with ccTGA at a single-center, were included in the study. Clinical data, echocardiographic parameters and outcomes were collected. All arrhythmic and/or heart failure (HF) events were recorded. Pronostic factors for poor outcome were assessed.

Results: 30 males and 25 females, aged 16.7 ± 18.4 y at diagnosis of ccTGA and followed-up for 17.9 ± 12.7 y, were included in the study. Mild lesions were associated in 23 cases (small VSD, mild pulmonary valve stenosis, small ASD, mild isthmus stenosis). Complete AV block occurred in 7 cases (13%). NYHA class I, II, III and IV at onset was respectively: 70%, 18%, 7% and 3.6%, and at end-follow-up was respectively: 31%, 38%, 24% and 6.7% at end-FU. Systemic right ventricle function at onset FU was normal on 87% of cases, moderately impaired in 13% and none had severe RV dysfunction, and changed to respectively 73%, 18% and 9% at end-FU. Tricuspid regurgitation was grade 0, 1, 2 or 3 in 33%, 49%, 9% and 9% of cases respectively at onset FU and in 13%, 48%, 24% and 16% of cases at end-FU respectively. Symptoms of HF occurred in 8 cases (14.5%) at the age of 37.5 ± 13.7 y (7 to 61y), AVB occurred in 20 (36.4%) at age 31.4 ± 19.4 y (5 to 72y) and arrhythmias in 16 (29%), over FU. RV dysfunction was associated with TR grade ($p=0.025$), and HF with TR grade ($p=0.015$) and pacemaker implantation ($p=0.026$). Freedom for onset of HF was 50% at mean age of 36years.

Conclusion: Patients with isolated ccTGA experience worsening of RV function and TR grade, and frequent arrhythmic and HF events over twenty years of follow-up.