

GW23-e1543

ASSESSMENT OF LEFT VENTRICLE GEOMETRY AND FUNCTION PATTERN AFTER ARTERIAL SWITCH OPERATION FOR D-TRANSPOSITION OF THE GREAT ARTERIES WITH INTACT VENTRICULAR SEPTUM USING TWO-DIMENSIONAL ECHOCARDIOGRAPHY

doi:10.1136/heartjnl-2012-302920ad.32

Weijing Zhang, Mingxing Xie. *Department of Ultrasonography, Union Hospital of Tongji Medical College, Huazhong University of Science and Technology, Hubei Provincial Key Laboratory of Molecular Imaging, Wuhan 430022, China*

Objectives The aims of this report were to study the early and mid-term outcome in terms of LV geometry and function in patients with transposition of the great arteries with intact ventricular septum (TGA/IVS) undergoing arterial switch operation.

Methods Eighteen patients aged from 28 days to 5 years (median age 4.5 months) were followed up and divided into 2 groups by age: the TGA1 group (18 patients, 28 days–6 months) and the

TGA2group (16 patients, 6 months–4 years). Thirty age-matched controls were also analysed. We used two-dimensional echocardiography to obtain ejection fraction (EF), isovolumic relaxation time (IVRT), Mitral valve early (E) and late (A) inflow velocities and E/A, LV end-diastolic volume (EDV), end-systolic volume (ESV), LV posterior wall thickness (W), dimension (D) and length (L) at end diastolic phase, to calculate normalised isovolumic relaxation time (IVRT_n), wall thickness index (W/D) and LV geometry index (D/L), and to compare these indexes between groups.

Results Compared with normal 1 group, W in TGA1 was higher (0.41 ± 0.06 vs 0.36 ± 0.05 $p=0.022$), but D had no significant statistical difference (2.08 ± 0.21 vs 2.21 ± 0.23 $p=0.117$), indicating W/D differed between groups (0.20 ± 0.04 vs 0.16 ± 0.01 $p=0.001$). However, there is no significant difference in EF, IVRT, E, A, E/A and D/L between the above two groups. No abnormalities were observed in TGA2 group. Both TGA groups and normal groups, EDV, ESV, L, D and W were increasing with age ($p=0.000$).

Conclusions Early after operation, LV is undergoing hypertrophy or hyperplasia in TGA/IVS but will be recovery in the middle-term period and the function is normal all the time indicating that the LV myocardium may avoid irreversible pathological changes if operated before the pattern of LV geometry alters. All in all, LV develops well in long-term.