Congenital Heart Disease

LEFT VENTRICULAR DYSFUNCTION HAS AN ADDITIONAL NEGATIVE IMPACT ON CARDIAC OUTCOMES IN ADULTS WITH EBSTEIN’S ANOMALY

Poster Contributions
Hall C
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Background: Non-invasive predictors of cardiac events in Ebstein’s anomaly are not established.

Methods: 105 adults [aged 39.4±15.8 (18-83) years] with unrepaired Ebstein’s anomaly underwent protocolised cardiovascular magnetic resonance (CMR) and echocardiography between January 2004 and December 2011. Cardiac events including death, sustained tachyarrhythmia, congestive cardiac failure, and cardiac transplantation were recorded and patients were censored when they underwent surgical repair.

Results: At latest follow-up (median 3.71 years), 100/105 were in sinus rhythm, 5/105 (0.5%) in persistent atrial fibrillation (AF), 26/105 (24.8%) patients had presented with new episodes of atrial tachyarrhythmia (AT) and 2/105 (1.9%) had sustained ventricular tachycardia (VT). On multivariate Cox proportional hazard analysis, maximum functional RA indexed volume [hazard ratio (HR) 1.01, 95% confidence interval (CI) 1.003-1.02, p=0.005] was an independent risk factor. A composite score including 1 point for each independent predictor (maximum RA indexed volume >100 ml/m2, TR%RF >35%, indexed RVEDV>150ml/m2), was found highly predictive of AT (logrank P=0.002). At latest follow-up, 9/105 patients (8.6%) had fatal cardiac events (cardiac failure, VT, sudden cardiac death). On univariate Cox proportional hazard analysis, oxygen desaturation during exercise, peak VO2 of the predicted value, stroke volume, Maximum functional RA indexed volume, atrialised RV indexed volume, RVEF, LVEF, LV longitudinal global strain (p<0.047) were important predictors of fatal cardiac event. As for left-sided cardiac predictor of cardiac event, 11.5% in LV global strain was a cut off value (sensitivity 77.8%, specificity 82.1%, AUC 0.79 [95%CI 1.003-1.02, p=0.006, log rank P=0.02]).

Conclusions: Predictors of fatal cardiac events are multifactorial and LV dysfunction as well as right sided volume overload is also one of the important predictors even in a representative right-sided cardiac disease, Ebstein’s anomaly.