

JCK Poster

JCK Poster 2 (II-JCKP2)

Kawasaki Disease/General Cardiology/Adult Congenital Heart Disease

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[II-JCKP2-09] Role of Cardiopulmonary Exercise Testing for Prediction of Pregnancy Outcome in Women with Congenital Heart Disease

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Background: Most women with congenital heart disease (WCHD) are reaching reproductive adulthood and the pregnancy-associated issues have become one of major clinical practices in a field of WCHD.

Prediction of pregnancy outcome is important and helpful to guide clinicians to care of WCHD. In this regard, NYHA may determine the outcome, there have been no objective criteria for the safer pregnancy in WCHD.

Purpose: To identify major risk factors and determine referral cardiovascular variables during cardiopulmonary exercise testing (CPX) in WCHD.

Method and Results: We retrospectively reviewed pregnancy outcomes of 68 WCHDs and those compared with NYHA, CPX-derived variables (heart rate [bpm], oxygen uptake, systolic blood pressure [SBP, mmHg] at peak exercise and clinically relevant arrhythmia during CPX(Ex-Arr)). 17 maternal cardiac and 26 neonatal events occurred. All variables were associated with maternal cardiac and neonatal events ($p < 0.05$ -0.001). Of these, peak SBP and Ex-Arr were the independent determinants of the maternal (odds ratio [OR]: 0.96, 95% confidence interval [CI]: 0.92-0.99, $p < 0.05$ for peak SBP) and neonatal events (OR: 0.95, 95%CI: 0.91-0.99, $p < 0.01$ for peak SBP, and OR: 21.2, 95%CI: 2.1-559, $p < 0.01$ for Ex-Arr), except for Ex-Arr for maternal events. The cutoff value of SBP for maternal and neonatal events was 150 and 154.

Conclusion: All major CPX-derived variables, especially, peak SBP and Ex-Arr, can predict adverse outcome during pregnancy in WCHD. Peak SBP ≥ 150 without Ex-Arr could be a reliable reference value for safer pregnancy outcome in WCHD.