

Prognostic index to evaluate the risk of the right ventricle dysfunction faced with systemic afterload.

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The introduction of physiological atrial correction surgery allowed prolonging the life expectancy of those born with transposition of large arteries. In Cuba, no index is applied to assess the risk of right ventricle dysfunction faced with systemic afterload.

Objective: The objective of this research was to develop and validate a prognostic index for this purpose.

Method: An observational, prospective, cross-sectional study was conducted in 90 patients of the Pediatric Cardiocenter "William Soler" from 2012 to 2015. A logistic regression model was performed to identify the variables that contributed to significant independent risk of dysfunction. To determine the clinical relevance of the echocardiographic variables, an effectiveness study was carried out with analysis of the incidence and prevalence of the event (clinical dysfunction of the right ventricle facing systemic afterload), at each echocardiographic measurement.

Results: Initial systolic dysfunction of right ventricle faced with systemic afterload was observed, dependent on the increase in afterload and not due to myocardial disorder. There are no alterations in the initial diastolic function. The variables that make up the prognostic index are: end-diastolic, end-systolic and parietal thickness of the right ventricle, systolic excursion of the tricuspid annular plane, ejection fraction of the right ventricle, S wave, Tei index, pressure derivative as a function of time and characterization of tricuspid regurgitation.

Conclusions: The index shows good discriminatory capacity and adequate calibration in prediction of ventricular dysfunction. Telediastolic diameter and parietal thickness of the right ventricle, derived from pressure as a function of time and characterization of tricuspid regurgitation, demonstrate clinical relevance. The prognostic index shows validity and allows its introduction in clinical practice.