Abstract: P1823

Correlation between cardiac index and right ventricular systolic function in our patients with pulmonary hypertension.

Authors:
A Lescano¹, R Caprini¹, E Besmalinovich¹, G Sorasio¹, AR A Rossi¹, CM C Musante¹, MV M Vergara¹, JF J Farina¹, C Miranda¹, R Skena¹, ¹QUILMES TRINIDAD CLINIC - BUENOS AIRES - Argentina,

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Pulmonary hypertension (PH) is a multifactorial disease with a high morbidity and mortality. It requires invasive hemodynamic diagnosis, with a value of mean pulmonary pressure (MPP) =25 mmHg. In the recommended algorithm studies, doppler echocardiography (DE) is the screening method, by the estimation of systolic pulmonary pressure and right ventricular systolic function (RVSF). The longitudinal excursion of the lateral wall of tricuspid annulus (TAPSE) is an indicator of RVSF, although it was removed from the HP guidelines. By right heart catheterization, the measurement of cardiac index (CI) expresses the right ventricular function and is a mortality marker. The question arises about the correlation between both techniques as indicators of right ventricular function.

Objective
Determine the correlation of TAPSE value and CI in our population with diagnosis of PH.

Methods. The patients derived to the service between March 2012 and January 2018 with a PH diagnosis (PPM = 25 mm Hg or Eisenmenger syndrome), were analyzed. The data recollection included: filiation information, PH group classification, clinical features, direct hemodynamic variables (CCD), functional variables (six minute walk test (6MWT) and functional class) and echocardiographic values, according to recommendations of international guidelines.

Echocardiographic variables were obtained by three experienced operators. It was recorded: RVSF, TAPSE, pulmonary pressure and pericardial effusion (PE) presence. Hemodynamic confirmation has been obtained by a right heart catheterization, with the recollection of quantified pressures (right atrium, systolic, mean, diastolic PP, wedge pressure, CI, pulmonary and systemic vascular resistance). Both studies were performed with a difference <24 hours and physicians did not know echocardiography results. Bioestat 5.0 statistical package was used and linear correlation variables were analyzed.

Outcomes: It s a multicenter, observational, descriptive, consecutive and prospective study that enrolled 114 cases with incidental hemodynamic diagnosis of HP. The average age of the population was 56 years (SD 19), 59 % female. The PH Group (G) was: GI 66%, G II 14%, G III 7%, G IV 8% and GV 5%. With respect to the clinical features we observed: 80% heart failure and 24% syncope. Direct hemodynamic measurements showed average values: systolic PP 74 mmHg, MPP 45 mmHg (SD 15), diastolic PP 31 mmHg , transpulmonary gradient 34, right atrial pressure 9 mm Hg and cardiac index 2.8 (4.6-1.2) l/min/m2. Among the echocardiographic findings we observed an average TAPSE of 17.6mm (30-10). The concordance correlation coefficient resulted in r 0.02 (95% CI 0.20-0.25), with a Pearson p value of 0.8.

Conclusions
In our study population with an established diagnosis of PH we observed a bad correlation between TAPSE and CI. This results support the need to use right heart catheterization as a tool to quantify the systolic function of the right ventricle.