Prevalence, characteristics and prognosis of moderate to severe tricuspid regurgitation in patients with precapillary pulmonary hypertension

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Background Our study aim to characterize clinical, biological, echocardiographic and hemodynamic parameters related with severity of TR and if TR is associated with higher risk of acute right ventricular heart failure (ARVHF) or death in PPH patients.

Methods We reviewed data from 116 stable patients referred to the French pulmonary hypertension referral center. All patients had right heart catheterization with mean pulmonary pressure (mPAP) ≥25mmHg, with pulmonary wedge pressure <15mmHg and pulmonary vascular resistance (PVR) >3 WU. On echocardiography, severity of TR was determined from 2-dimensional and Doppler color flow image in the apical 4-chamber view. Patients were divided in two groups according to the severity of TR (TR ≥grade 3 and TR <grade 3).

Results 37 (32%) patients have TR grade ≥3. Compared with patients TR <grade 3, no difference were observed in gender, NYHA class, and 6-minute walk distance. On RCH, both groups had similar mPAP, cardiac index, right atrial mean pressure and pulmonary vascular resistance. On echocardiography, Patients with TR grade ≥3 have higher right atrial volume (57 (45-70) vs 36 (32-40)mmL/m², p<0.001), higher end-diastolic right ventricular area (16 (14-17) vs 14 (13-15)mm²/m², p=0.04), higher end-systolic right ventricular area (12 (10-14) vs 10 (9-11)mm²/m², p=0.01), and higher BNP level (248 (141-355) vs 102 (59-144)pg/mL, p=0.003). There were no difference in tricuspid annular plane systolic excursion nor in tricuspid S’ velocity. During a median follow up of 17 months, death or ARVHF was observed in 14% of patients with TR grade ≥3 and 7% of patients with TR grade <3 with no statistical difference.

Conclusion PPH patients with TR grade ≥3 have higher right atrial volume, end-diastolic and end-systolic right ventricular area and BNP level compared with patients with TR <grade 3. There was more numerous major events in follow up in this group, without statistical difference.

The author hereby declares no conflict of interest

How to measure the functional status of obese heart failure patients?

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Background Obesity is a high risk factor and has been described as an independent risk for heart failure (HF). Obese patients suffer dyspnea earlier than others. Our aim to explore the functional status of obese heart failure patients.

Method This retrospective study including 685 patients (66 years, 436 were male) admitted in the therapeutic unit of heart failure, We divided the patients into 3 groups regarding their body mass index (the weight in kilograms divided by the square of the height in meters); normal weighted “18.5 to 24.9kg/m²” (67 years, 72% were male); overweight “25.0 to 29.9kg/m²” (65.3 years, 60% were male); and obese “30.0kg/m² or more” (65.6 years, 37% were male). We analyzed new York heart association (NYHA) status, the 6 minutes’ walk test a simple and reliable way to assess the exercise capacity of CHF patients.

Results Baseline characteristics and ejection fraction was comparable in the 3 groups.

Female sex, diabetes, hypertension, dyslipidemia were significantly associated in overweight and obese groups (p=0.0001).

NYHA grade III/IV were significantly lower in the normal weighted patients (p=0.01); no difference in NYHA grade III was observed. There was significant correlation between groups in distance covered in the 6 minutes’ walk test (p=0.03). Patients incapable to walk were significantly obese (p=0.003).