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Are all severe Tricuspid Regurgitation the same?

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Introduction: Tricuspid regurgitation (TR) importance is growing in the last years. Its presence is associated with a worse prognosis. A new severity classification has been published, adding massive and torrential to the classical TR classification. However, both clinical profile of the patients as well as right chambers morphologic and functional changes have not been described compared to the severe TR patients.

Methods: Consecutive patients undergoing an echocardiographic study in 9 Spanish hospitals within a three-month period with at least moderate TR were prospectively included. All studies with severe TR were selected for analysis. TR assessment was performed as recommended by the European Association of Cardiovascular Imaging. TR severity grades was performed according to Hanh & Zamorano new published classification. Two cohorts were made: patients with severe TR and patients with massive or torrential TR.

Results: A total of 644 patients with severe or bigger TR were analysed. Severe TR was present in 540 (84%), massive was present in 83 (13%) and torrential in 21 (3%) Baseline characteristics of the study population are shown in table 1.

No differences were found in NYHA class or atrial fibrillation incidence between groups. Pacemaker was more frequent in massive/torrential group (30% vs 19%; 0,014).

Patients with massive/torrential TR presented worst RV remodelling data:

-RV was dilated (RV telediastolic basal diameter >42mm) in 84.2% of patients with massive/torrential TR vs 57% of patients with severe TR ($p < 0.001$).

-Right atrium was bigger in patients with massive/torrential TR (21 ± 0.8 cm2/m2 vs 17.2 ± 0,3 cm2/m2; $p < 0.001$)

-Tricuspid annulus diameter was bigger between massive/torrential TR patients (26.7 ± 0.6 cm/m2 vs 23.6 ± 0.3 cm/m2; $p > 0.001$).

No significant differences in prevalence of RV function (TAPSE < 17 mm) were noted 39% vs 33%, $p = 0,273$.

Conclusions: In this large multicentre cohort of patients, the presence of massive/torrential TR seems to be associated with a differential RV and RA remodelling, reflecting the greater volume overload seen in these patients. Further studies are needed to define prognosis implication of our findings and its role in clinical decision making.

Table 1

Variable	Severe (n = 540)	Massive/Torrential (n = 104)	
Body mass index	26,6 (±0,3)	26.4(±0,6)	0.350
Woman	336 (62%)	69 (66%)	0.438
Atrial firilation	298(55%)	61(59%)	0.514
Age (years)	76,5 (±0,5)	77,5(±1,1)	0.209