Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Spotlight on Special Topics

RELATIONSHIP BETWEEN PARAMETERS OF RIGHT VENTRICULAR HEMODYNAMICS TO OUTCOMES IN COVID-19: CLINICAL AND ECHOCARDIOGRAPHIC COMPARISONS BETWEEN THE FIRST AND SECOND WAVES OF THE PANDEMIC

Poster Contributions
For exact presentation time, refer to the online ACC.22 Program Planner at https://www.abstractsonline.com/pp8/#!/10461

Session Title: Spotlight on Special Topics Flatboard Poster Selections: COVID
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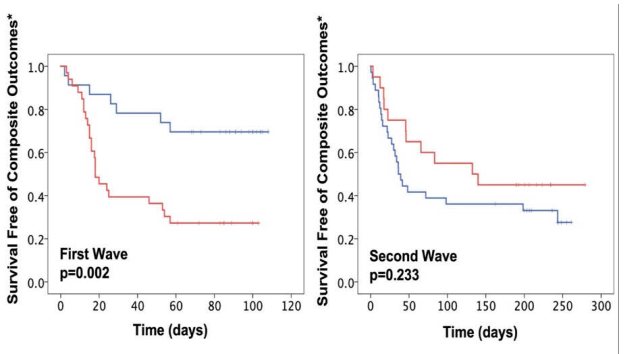
Background: Elevated right ventricular systolic pressure (RVSP) reportedly predicts poor outcomes in COVID-19 as a marker of pulmonary thrombosis. **Aim:** Compare echocardiographic findings predictors of outcomes between the 1st and 2nd COVID waves.

Methods: We studied 66 1st wave patients (63±16 years, 65% males) and 66 2nd wave patients matched for age, sex and risk factors (64±14 years, 58% males] followed for a median of 57 days for composite outcomes (death or rehospitalization).

Results: Laboratory results were milder in the second wave especially D-Dimer (4.7±10 vs. 1.6±4.7, p=0.03), hsCRP (183±176 vs. 74±73, p<0.001), and troponin (2863±8886 vs. 226±792, p<0.001). Parameters of LV functions were similar, however, the second wave had less tricuspid regurgitation velocity (TRV), RVSP, pulmonary hypertension and RV strain (Table 1). Although outcomes were not different between both waves, TRV and RV strain predicted outcomes in the first wave [HR: 3.4 (95% CI: 1.9- 6.4), 3.4 (95% CI: 1.5 - 7.8)], but not in the second [HR: 0.9 (95% CI: 0.4 - 1.8), 2.5 (95% CI: 0.5 - 9.5)]. TRV correlated with D-Dimer only in the first wave (r=0.3, p=0.02 vs. r=0.03, p=0.83). Similar results were obtained after adjusting for D-dimer, hsCRP, and hsTn.

Conclusion: RV functions and hemodynamics were better in the 2nd wave. However, these parameters lost predictive ability for worst outcomes noticed in the 1st wave, probably due to pathological alterations leading to a less pronounced thromboinflammatory state.



	First Wave (n=68)	Second Wave (n=66)	p-value
Death, n(%)	25	17	0.135
Re-hospitalization, n(%)	14	21	0.184
Composite outcomes, n(%)	38	37	0.781
Follow-up time, days	49.5±36	122±99	<0.001
Left atrial volume index, ml/m²	30±15	32±17	0.563
Left ventricular mass index	112±38	109±34	0.588
Ejection Fraction, %	56±14	55±15	
Mitral early diastolic velocity (E), cm/s	80±27	83±30	0.573
Mitral late diastolic velocity (A), cm/s	81±31	89±29	0.149
Mitral annular early diastolic velocity e', cm/s	6.3±2	6.5±2	0.638
E/A ratio	1.2±0.9	1.02±0.7	0.257
E/e' ratio	14±7	14±8	0.897
Right Atrial area, cm²	17±7	17±5	0.888
Tricuspid regurgitation velocity, m/s	3±0.6	2.66±0.4	0.005
Right ventricular systolic pressure, mmHg	45±17	39±1.4	0.047
Pulmonary hypertension, n(%)	34	20	0.011
Right ventricular strain, n(%)	9	2	0.027
*: Composite outcomes were defined or rehospitalization,			