

TAPSE as a Predictor of Mortality in Hospitalized COVID-19 Patients

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Background and aims: In this study we compared echocardiographic parameters in COVID 19 patients and assessed the association between tricuspid annular plane systolic excursion (TAPSE) and severity of pulmonary involvement in COVID-19.

Materials/patients and methods: We analyzed the tricuspid annular plane systolic excursion (TAPSE), tricuspid valve regurgitation pressure gradient, pulmonary arterial systolic pressure (PAPs) in 20 patients measured using trans-thoracic echocardiography. Patients were divided in two groups: 15 patients were on high flow Oxygen/C-PAP, 5 patients didn't require Oxygen supplementation.

Results: There were 5 deaths, all in C-PAP, usually overweight, smokers and affected by comorbidities. Survivors were younger. In the non-survivors, PAPs was increased (40 ± 10 vs. 20 ± 5 mmHg), while TAPSE was decreased (17 ± 4 vs. 20 ± 4). Compared with survivors, non survivors showed diminished RV function, and

elevated pulmonary artery systolic pressure. Tricuspid annular plane systolic excursion and pulmonary artery systolic pressure were significant predictors of higher risk for mortality.

Discussion: Bed-side echocardiography with evaluation of Right Ventricular function is a useful predictor of poor outcome in hospitalized COVID-19 patients affected by severe pulmonary involvement. Specifically reduced TAPSE and increased PAPs are associated with an increase in mortality.

References

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