

## RV strain on echocardiogram may ID high-risk COVID-19 patients

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(HealthDay)—Right ventricular longitudinal strain (RVLS) is a predictor

of mortality in patients with COVID-19, according to a study published online April 28 in *JACC: Cardiovascular Imaging*.

Yuman Li, from Huazhong University of Science and Technology in Wuhan, China, and colleagues examined whether RVLS was independently predictive of higher mortality in COVID-19 patients. One hundred twenty patients with COVID-19 who underwent echocardiography examination were enrolled.

The researchers found that patients in the lowest RVLS tertile were more likely to have a higher heart rate, D-dimer, and C-reactive protein; high-flow oxygen and invasive mechanical ventilation therapy; and a higher incidence of acute heart injury, [acute respiratory distress syndrome \(ARDS\)](#), and [deep vein thrombosis](#) compared with those in the highest RVLS tertile. They also had a higher mortality rate. Eighteen patients died after a median follow-up of 51 days. Nonsurvivors had an enlarged right-heart chamber, diminished RV function, and elevated pulmonary artery systolic pressure compared with survivors. Significant univariate predictors of higher risk for mortality were being male, ARDS, RVLS, RV fractional area change (RVFAC), and tricuspid annular plane systolic excursion (TAPSE). Higher [mortality](#) was predicted more accurately with the Cox model using RVLS than with RVFAC and TAPSE (C-index, 0.89 versus 0.84 and 0.83). For prediction of outcome, the best cutoff value of RVLS was  $-23$  percent (area under the curve, 0.87).

"This index may have an additional predictive value over other echocardiographic parameters," the authors write. "Evaluation of RV function should be implemented by investigation of RVLS for risk stratification in COVID-19 patients."

**More information:** [Abstract/Full Text \(subscription or payment may be required\)](#)

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