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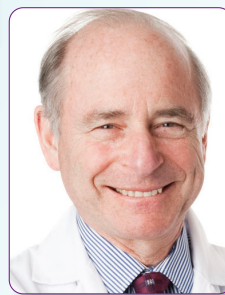
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High systolic blood pressure at hospital admission is an important risk factor in models predicting outcome of COVID-19 patients

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The goal of this study was to develop models that predict outcomes for COVID-19 patients using data collected from the Seventh Hospital in Wuhan City, China. Establishing the prognosis of COVID-19 patients using prediction models at the time of hospital admission could help relieve pressure on the health care system by allowing evidence-based risk prediction and decision-making when triaging patients, and thus contribute to the ability of health care workers to provide the most appropriate care to patients as quickly as possible, which could improve outcomes.

Forty-three demographic, clinical and laboratory parameters collected upon admission, plus discharge/death status, days from the onset of COVID-19 symptoms and days of hospitalization were analyzed from 157 patients, 120 of whom were discharged and 37 of whom died. Models predicting outcome of COVID-19 patients based on data available at hospital admission were developed using an unbiased approach. Age, respiration rate and high-sensitivity C-reactive protein (hsCRP) level were the three main covariates that predict the outcome of COVID-19 patients; both in the prediction of survival and mortality. Systolic blood pressure (SBP), but not hypertension, was a covariate in both mortality and survival prediction models. SBP was elevated in deceased, compared to discharged, COVID-19 patients.

Progress in treatment since these data were collected has reduced case-fatality rates and may eventually necessitate developing new models adapted to a new reality.

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