Model can predict preemie neonatal outcome severity

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(HealthDay)—A statistical prediction model comprising eight characteristics can be used to determine the severity of neonatal outcomes for infants born at 23 to 30 weeks of gestation, according to a study published online Sept. 23 in *Pediatrics*.

Wen J. Ge, from Mount Sinai Hospital in Toronto, and colleagues developed and validated a model to predict the severity of neonatal outcomes in infants born at 23 to 30 weeks of gestation. A national cohort of infants admitted to level III neonatal intensive care units (NICUs) in Canada in 2010 to 2011 were identified from the Canadian Neonatal Network database.

The researchers found that 37 percent of the 6,106 eligible infants survived without morbidity; 32 percent survived with mild morbidity; and 21 percent survived with severe morbidity. Ten percent of infants

died. The model predictors included gestational age, small for gestational age (less than 10th percentile), gender, Score for Neonatal Acute Physiology version II >20, outborn status, antenatal corticosteroid use, receipt of surfactant, and mechanical ventilation on the first day of admission. Internal bootstrap validation confirmed high model discrimination. The probabilities predicted were consistent with the outcomes observed.

"Neonatal outcomes ranging from mortality to survival without morbidity in extremely preterm infants can be predicted on their first day in the NICU by using a multinomial model with good discrimination and calibration," the authors write.

More information: Abstract
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