Preexisting cardiovascular conditions tied to severe COVID-19 in children

May 19 2022

Some previous or preexisting cardiovascular conditions are associated

with increased severity of COVID-19 among children, according to a study published online May 17 in *JAMA Network Open*.

Louis Ehwerhemuepha, Ph.D., from Children's Health of Orange County in California, and colleagues examined associations between previous or preexisting cardiovascular conditions and severity of COVID-19 in pediatric patients. Analysis included 171,416 patients (aged 2 months to 17 years; median age, 8 years) with a laboratory-confirmed diagnosis of COVID-19 or a diagnosis code indicating infection or exposure to severe acute respiratory syndrome coronavirus 2 at 85 health systems (March 1, 2020, to Jan. 31, 2021).

The researchers found that the following cardiovascular conditions were associated with severe COVID-19: cardiac arrest (odds ratio [OR], 9.92), cardiogenic shock (OR, 3.07), heart surgery (OR, 3.04), cardiopulmonary disease (OR, 1.91), heart failure (OR, 1.82), hypotension (OR, 1.57), nontraumatic cerebral hemorrhage (OR, 1.54), pericarditis (OR, 1.50), simple biventricular defects (OR, 1.45), venous embolism and thrombosis (OR, 1.39), other hypertensive disorders (OR, 1.34), complex biventricular defects (OR, 1.33), and essential primary hypertension (OR, 1.22).

"Although the magnitude of the associations found in this study differed considerably across the 26 cardiovascular conditions studied, the results suggest a high overall cardiovascular burden associated with severe COVID-19," the authors write.

One author disclosed financial ties to the medical technology industry.

More information: Louis Ehwerhemuepha et al, Association of Congenital and Acquired Cardiovascular Conditions With COVID-19 Severity Among Pediatric Patients in the US, *JAMA Network Open* (2022). DOI: 10.1001/jamanetworkopen.2022.11967