Study finds hospital-onset SARS-CoV-2 infection during omicron linked to morbidity

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During the omicron era, hospital-onset severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection remained associated with increased morbidity and mortality, according to a study published

online July 16 in the *Annals of Internal Medicine*.

Michael Klompas, M.D., M.P.H., from Harvard Medical School and the Harvard Pilgrim Health Care Institute in Boston, and colleagues estimated the effect of nosocomial SARS-CoV-2 infection on hospitalized patients' outcomes during the pre-omicron and omicron eras.

Hospital mortality and time to discharge were assessed as primary outcomes among adults testing positive for SARS-CoV-2 on or after hospital day 5, after negative SARS-CoV-2 test results on admission and on hospital day 3, and matched control participants.

Data were included for 274 cases of hospital-onset SARS-CoV-2 infection during the pre-omicron period and 1,037 cases during the omicron period (0.17 and 0.49 cases per 100 admissions, respectively). The researchers found that compared with those without, patients with hospital-onset SARS-CoV-2 were older and had more comorbid conditions.

During the pre-omicron period, compared with control participants, hospital-onset SARS-CoV-2 infection was associated with an increased risk for intensive care unit (ICU) admission, an increased need for high-flow oxygen, longer time to discharge (median difference, 4.7 days), and higher mortality (risk ratio, 2.0).

During the omicron period, an increased risk for ICU admission and increased time to discharge (median difference, 4.2 days) were still seen in association with hospital-onset SARS-CoV-2. The association with increased hospital mortality was still significant, although attenuated (risk ratio, 1.6).

"The frequency and persistent morbidity associated with hospital-onset

SARS-CoV-2 infections in the omicron era suggest that hospitals should implement measures to prevent nosocomial SARS-CoV-2 infections," the authors write.

More information: Michael Klompas et al, Morbidity and Mortality of Hospital-Onset SARS-CoV-2 Infections Due to Omicron Versus Prior Variants, *Annals of Internal Medicine* (2024). DOI: 10.7326/M24-0199