

Global Impact of COVID-19 on Stroke Care and IV Thrombolysis

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on behalf of the Society of Vascular and Interventional Neurology COVID-19 Global Stroke Registry

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Study Question

What was the global impact of the COVID-19 pandemic on the use of IV thrombolysis (IVT), transfers related to IVT, and stroke hospitalizations between March and June of 2020? Secondarily, what was the rate of stroke among COVID-19 hospitalizations? What was the rate of SARS CoV-2 infection of all stroke admissions?

What Is Known and What This Paper Adds

The COVID-19 pandemic severely strained health care systems worldwide, and the neurologic manifestations of COVID-19 placed immense burden on neurology services. This investigation's results show that the pandemic led to a global decline in the volumes of stroke hospitalizations, IVT, and interfacility IVT transfers.

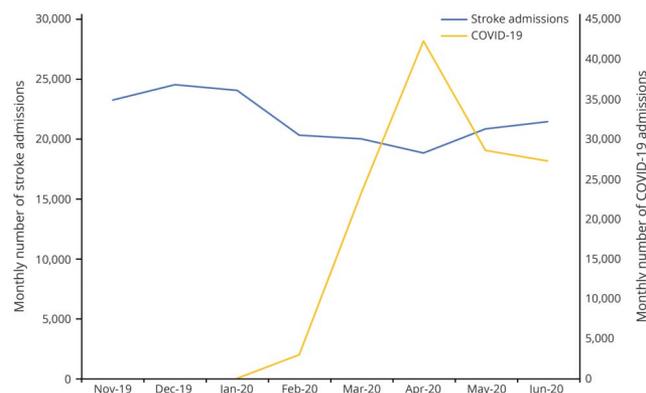
Methods

For this retrospective cross-sectional study, the investigators analyzed data from 457 stroke centers in 70 countries on all 6 permanently inhabited continents. They identified stroke cases based on diagnostic codes, classifications in stroke databases, or both. The present study's primary outcomes were differences between the peak pandemic months (i.e., March, April, May, and June of 2020) and the preceding 4 months (i.e., the control period) in terms of the volumes of stroke hospitalizations, IVT procedures, and interfacility IVT transfers.

Results and Study Limitations

In total, there were 91,373 stroke admissions during the control period but only 80,894 stroke admissions during the peak pandemic months, meaning stroke admission volumes declined by 11.5% (95% confidence interval [CI], 11.3%–11.7%; $p < 0.0001$). There were 13,334 IVT treatments performed during the control period but only 11,570 IVT procedures performed during the peak pandemic months, meaning that IVT procedure volumes decreased by 13.2% (95% CI, 12.7%–13.8%; $p < 0.0001$). There were 1,337 interfacility IVT transfers during the control period but only 1,178 transfers during the peak

Figure Stroke Admissions vs COVID-19 Admissions



Monthly admissions for stroke (blue) and monthly admissions for COVID-19 (yellow).

pandemic months, meaning transfer numbers decreased by 11.9% (95% CI, 10.3%–13.7%; $p = 0.001$). There was a 1.48% stroke rate across 119,967 COVID-19 hospitalizations. SARS-CoV-2 infection was noted in 3.3% (1,722/52,026) of all stroke admissions. The present study's limitations include the reliance on administrative data to identify stroke cases, which might have resulted in misclassifications. Furthermore, the investigators lacked access to data concerning patient demographics, stroke subtypes, and clinical outcomes.

Study Funding and Competing Interests

This study received no funding. Some authors report receiving personal fees, committee appointments, and funding from healthcare companies, foundations, the agencies of various governments, and various professional societies, including the American Academy of Neurology; holding stock, stock options, or ownership interests in healthcare companies; receiving publishing royalties; and serving on the editorial boards of various journals. Go to Neurology.org/N for full disclosures.

A draft of the short-form article was written by M. Dalefield, a writer with Editage, a division of Cactus Communications. The corresponding author(s) of the full-length article and the journal editors edited and approved the final version.

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