

What is cerebral venous thrombosis? Study finds blood clot condition on the rise

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Cerebral venous thrombosis (CVT) occurs when a blood clot forms in one of the veins in the brain, preventing blood from draining out of the brain. A new analysis has found that the incidence of CVT in the United States is higher than previously reported and has increased over time. The study found the increase occurred mainly in men and older women. Consistent with prior data, the incidence of CVT remained highest in younger women and it did not increase across the study. Researchers also found the incidence of CVT in Black people is higher than in people of other racial and ethnic groups.

Some of the main factors associated with cerebral venous thrombosis include oral contraceptives, pregnancy, cancer, head trauma and obesity. Symptoms include severe headaches, blurred vision and nausea. Rarely, CVT can lead to brain swelling and bleeding and, when most severe, stroke and permanent brain damage.

"Our study found that the number of cases of cerebral venous thrombosis in the United States is three times higher than previously reported, and who is being diagnosed with the condition is changing," said study author Fadar Oliver Otite, M.D., Sc.M., of the SUNY Upstate Medical University in Syracuse, N.Y. and a member of the American Academy of Neurology. "CVT is most common in [younger women](#) and the [higher incidence](#) in this group has been attributed, in part, to the use of birth control pills and pregnancy. However, our new analysis did not find an increase in this population over time, but rather showed increases in men and [older women](#)."

For the study, researchers reviewed hospital records in New York and Florida, two states with diverse populations. They identified a total of 5,567 new cases of cerebral venous thrombosis diagnosed between 2006 to 2016. Researchers then used U.S. Census data to identify total population numbers for those states as well as the country overall to calculate the incidence of CVT in the United States. They also looked at data for all strokes and the percentage of strokes caused by CVT.

It is important to note that not all cases of CVT lead to stroke, and stroke from CVT is rare. In this study, researchers found that an average of 0.66% of all stroke hospitalizations during the decade were due to CVT and the proportion increased 70% over time, going from 0.47% at the start of the study to 0.80% at the end of the study.

Researchers found that the incidence of CVT cases in the U.S. overall rose from an estimated 13.9 cases per million in 2006 to an estimated 20.2 cases per million in 2014. Cases among all men increased by 9.2%. Cases in women age 45 and older rose by 7.8%, with a 7.8% increase in women age 45 to 64 and a 7.4% increase in those 65 and older. The proportion of cases among [women](#) age 18 to 44 remained the same.

Researchers also found that the incidence of CVT in Black people was higher than in people from other self-identified racial or ethnic groups. From 2010 to 2016, Black people had an estimated of 23 cases per million compared to 17 cases per million in white people, 14 cases per million in Hispanic people, and 9 cases per million in Asian people.

"Our finding that Black people have a higher rate of CVT than people of other racial and [ethnic groups](#) is of concern, however our analysis was not designed to examine the reasons why," said Otite. "Future studies are needed to determine whether the higher incidence is due to environmental exposures, genetics, socioeconomics, or other factors."

Otite said, "In the U.S. population overall, incidence of CVT is either growing, or perhaps more likely, this increase is due to more awareness of the condition and better detection with increased use of neuroimaging. More research should examine more closely the reasons for the increasing incidence of CVT."

A limitation of the study was that it likely underestimated the number of cases of CVT since researchers used a hospital database to identify people diagnosed with the disease and therefore did not capture mild cases of CVT where people did not go to the hospital.

Provided by American Academy of Neurology

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