

Chickenpox virus can cause strokes in patients with compromised immune systems

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Patients infected with human immunodeficiency virus (HIV) can, in rare cases, experience bleeding on the brain that causes a type of stroke called intracerebral hemorrhage.

A Loyola University Medical Center case study demonstrates that a virus called varicella-zoster can cause inflammation of blood vessels in the brain. This inflammation, known as cerebral vasculitis, can cause both hemorrhagic and non-hemorrhagic strokes.

The study by Daniel Vela Duarte MD, David Pasquale, MD, and senior author Murray Flaster, MD, PhD, was presented during a meeting of the American Academy of Neurology 2015 annual meeting in Washington, D.C.

Varicella-zoster virus causes chickenpox in children and shingles in older adults. The virus typically remains dormant in patients with healthy immune systems, but can reactivate if the immune system is compromised.

Researchers reported the case of a 48-year-old man with HIV/AIDS. Doctors had prescribed a combination of HIV/AIDS drugs called highly active antiretroviral therapy, but for the previous seven years, the patient had not taken his medications. The patient presented with a very high HIV load and very low CD4 count. (CD4s are white blood cells that fight infections.)

The man experienced a sudden weakness on the right side and difficulty speaking and understanding speech. Imaging scans showed he had suffered a hemorrhagic stroke, with bleeding directly into the substance of the brain. The researchers were able to demonstrate that the varicella-zoster virus was actively replicating within the patient's brain.

Although rare, the condition may be more common in patients with compromised immune systems. However, it can be treated successfully when recognized.

The patient made an excellent recovery after receiving appropriate treatment -- a medication for varicella-zoster virus, along with highly active antiretroviral therapy.

The case illustrates three points:

- Physicians who treat patients with suppressed immune systems should take into account the possibility of infection by the varicella-zoster virus.
- In rare cases, varicella-zoster virus can cause strokes in children and adults with compromised immune systems.
- On imaging scans, lesions caused by varicella-zoster virus can mimic lesions caused by a different virus, called JC, that also becomes active in patients with compromised immune systems.

Source:

Loyola University Health System
