

How COVID causes delirium

[A]bout half of [COVID] patients report neurological symptoms, including headaches, confusion and delirium, suggesting the virus may also attack the brain.

A new study offers the first clear evidence that, in some people, the coronavirus invades brain cells, [hijacking them to make copies of itself](#). The virus also seems to suck up all of the oxygen nearby, starving neighboring cells to death.

It's unclear how the virus gets to the brain or how often it sets off this trail of destruction. Infection of the brain is likely to be rare, but some people may be susceptible because of their genetic backgrounds, a high viral load or other reasons.

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[Immunologist Akiko] Iwasaki and her colleagues documented brain infection in three ways: in brain tissue from a person who died of Covid-19, in a mouse model and in organoids — clusters of brain cells in a lab dish meant to mimic the brain's three-dimensional structure.

Other pathogens — including the Zika virus — are known to infect brain cells. Immune cells then flood the damaged sites, trying to cleanse the brain by destroying infected cells.

The coronavirus is much stealthier: It exploits the brain cells' machinery to multiply, but doesn't destroy them. Instead, it chokes off oxygen to adjacent cells, causing them to wither and die.

The researchers didn't find any evidence of an immune response to remedy this problem.

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