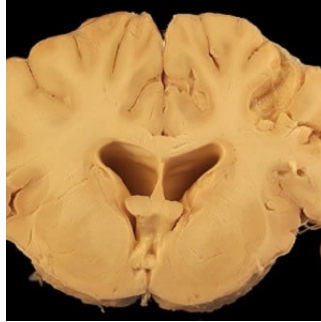


MRI Scans Can Help Spot HIV in the Brain



Changes in the brain's white matter – as seen in MRI scans – could indicate that HIV is persisting in the brain despite effective drug treatment, according to a UCL-led study published in *Clinical Infectious Diseases*. Currently, clinicians have to perform a lumbar puncture to confirm if HIV infection has spread to the brain. The procedure involves inserting a needle into the back to draw out the spinal fluid and test it for HIV.

See Also: [Cerebrospinal Fluid - Potential Biomarker of Autism](#)

"Before we had effective treatments for HIV, AIDS often led to dementia and other problems in the brain," explained senior author Professor Ravi Gupta (UCL Infection & Immunity). "Thankfully this is less common now that we can treat HIV, but up to half of HIV patients still report cognitive problems." The UCL study shows that MRI scans could help to identify high-risk individuals for further follow-up tests, the author noted.

Prof. Gupta and colleagues reviewed data of 146 HIV patients who were investigated for cognitive problems between 2011 and 2015. There was evidence that HIV was active in the brain in 22 patients (15 percent). In addition, the researchers found that patients whose brains showed definite signs of change in the white matter were 10 times more likely to have HIV in the brain than those with normal white matter appearances.

These changes in the brain, called diffuse white matter signal abnormalities, are linked to cognitive problems and can be triggered by inflammation in the brain caused by HIV infection.

"HIV treatments have come a long way, but patients whose HIV is suppressed by drugs can still have cognitive problems due to HIV related inflammation," said Prof. Gupta. "MRI scans can help to diagnose these patients, whether showing an elevated risk of HIV-related problems or finding a different cause that can then be treated. Where HIV has spread to the brain, we can change the treatment regime to add drugs that cross the blood-brain barrier more effectively to control the infection." Prof. Gupta is also an Honorary Consultant in Infectious Diseases at The Hospital for Tropical Diseases, UCLH NHS Foundation Trust.

Source: [University College London](#)
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