

What is HIV-related cognitive impairment?

People with the human immunodeficiency virus (HIV) can sometimes develop cognitive impairment during the course of the infection. This can be caused by the virus itself, which damages the brain and other parts of the nervous system. HIV also causes damage to the immune system. When the immune system becomes too damaged, unusual infections (opportunistic infections) and cancers can attack the brain also causing cognitive impairment. This factsheet looks at HIV-related cognitive impairment and its symptoms, how it is diagnosed and how it is treated.

How common is HIV-related cognitive impairment?

HIV-associated dementia was once thought to affect as many as 40 per cent of patients infected with HIV prior to death. It is now less common, thanks to the advent of effective treatment to control HIV infection, affecting about 2 per cent of those infected with HIV. However, less severe forms of cognitive impairment have been seen in patients on treatment, affecting approximately 20 per cent of those with HIV infection.

What are the symptoms of HIV related cognitive impairment?

Symptoms of HIV-related cognitive impairment may include:

- forgetfulness
- concentration problems
- language difficulties
- problems with short-term memory
- clumsiness
- unsteadiness
- jerky eye movements
- ataxia ('drunken gait')
- changes in personality

- loss of appetite
- inappropriate emotional responses
- mood swings
- hallucinations.

These symptoms can vary from being very mild so that they can be hard to detect on a daily basis, to being very severe.

How is it diagnosed?

Often HIV is overlooked as a possible cause of dementia. UK national guidelines recommend that all patients with dementia should consider having an HIV test.

Even when a patient is known to have HIV infection, it can sometimes be difficult to diagnose HIV-related cognitive impairment because many of the symptoms are similar to having depression, or other neurological or psychiatric conditions.

The following tests may be carried out to make the diagnosis:

- **HIV testing** - Initially, a blood test, which looks for the presence of antibodies to HIV, should be performed. This test is necessary to show that HIV is present in the body. Further blood tests to check the strength of the immune system (CD4 count) and to check the amount of HIV in the body (viral load) are then performed.
- **CT scan** - A CT (computerised tomography) scan can be used to detect opportunistic infections, or damage caused to the brain by HIV. However, an MRI scan is better at doing this.
- **MRI scan** - An MRI (magnetic resonance imaging) scan can show changes in the brain caused by HIV, or opportunistic infections.
- **Lumbar puncture** - This involves taking fluid from the base of the spine with a needle. It can be used to detect opportunistic infections, and detect the amount of virus (viral load) in the fluid around the brain
- **Neuropsychometric testing** - These psychological tests are used to measure the function of different parts of the brain.

How is it treated?

Anti-HIV drugs

It is not possible to cure HIV infection. However, the introduction of highly active antiretroviral therapy (HAART) - the use of three or more anti-HIV drugs - has dramatically improved the life expectancy and quality of life of people living with HIV. Many patients can now expect to have a near-normal life expectancy.

For patients with HIV-related cognitive impairment, these drugs often stop the cognitive changes worsening, and for many can reverse the cognitive damage that has been caused by HIV infection.

Other medication

Psychiatric drugs may also be prescribed to people with HIV-related cognitive impairment, including:

- antidepressants (such as fluoxetine, paroxetine, citalopram and venlafaxine) which can be used to improve motivation, appetite and mood
- [antipsychotics](#) (such as olanzapine and risperidone) which can relieve agitation and hallucinations.

For more information, See [Factsheet 444, Depression](#) and [Factsheet 408, Drugs used to relieve behavioural and psychological symptoms in dementia](#).

Rehabilitation

A structured rehabilitation programme can help people with HIV-related cognitive impairment to relearn the skills they need to care for themselves on a daily basis. This might include relearning how to wash, dress and feed themselves, take medication, cook, and be aware of road and household safety.

For details of Alzheimer's Society services in your area, visit alzheimers.org.uk/localinfo
For information about a wide range of dementia-related topics, visit alzheimers.org.uk/factsheets

Useful organisations

Alzheimer's Society

Devon House
58 St Katharine's Way
London E1W 1LB
T 020 7423 3500
0300 222 11 22 (helpline)
E info@alzheimers.org.uk (general information)
helpline@alzheimers.org.uk (helpline)
W alzheimers.org.uk

The UK's leading care and research charity for people with dementia and those who care for them. The helpline provides information, support, guidance and referrals to other appropriate organisations.

Mildmay UK

Spencer House
Austin Street
London E2 7NB
T 020 7613 6300
W www.mildmay.org.uk

The UK's only specialist provider of rehabilitation programmes for people with HIV associated cognitive impairment and dementia. It provides both inpatient and day care services for people affected by HIV cognitive impairment. Referrals must be made by other hospital or community services.

Terrence Higgins Trust

314-320 Gray's Inn Road
London WC1X 8DP
T 0845 1221 200 (helpline, 10am-10pm weekdays and 12pm-6pm weekends)
E info@tth.org.uk
W www.tth.org.uk

The leading HIV and AIDS charity in the UK. It provides care services to people affected by HIV and AIDS, as well as advice and information.

Factsheet 446

Last updated: November 2010
Last reviewed: November 2010

Reviewed by: Dr Simon Rackstraw, Medical Director, Mildmay UK

Alzheimer's Society National Dementia Helpline

England, Wales and Northern Ireland: 0300 222 11 22

9.00am-5.00pm Monday-Friday

10.00am-4.00pm Saturday-Sunday

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