

lipodystrophy

Lipodystrophy (lip-oh-diss-troh-fee) is the name for changes in body shape first reported in 1997 among people taking anti-HIV therapy. It was originally thought that the cause was protease inhibitors, but it's now known that body fat changes may sometimes occur among people taking anti-HIV therapy which does not include a protease inhibitor, and possibly in people who have never used anti-HIV drugs.

What does it look like?

Strictly speaking, lipodystrophy means the accumulation of fat. However, body fat changes seen in people with HIV include both fat gain and fat loss. This may result in: increased waist size (without rolls of fat); increased breast size; fat gain around the back of the neck and upper back; fat gain around the neck and jaw; facial wasting, especially of the cheeks; wasting of the buttocks; prominent veins in the arms and legs (because of fat loss).

The abdominal fat gain in lipodystrophy is made up of visceral fat which accumulates around the internal organs, causing the belly to feel taut and pushed out. This is different to the squeezable fat gained if people put weight on through over-eating or lack of exercise.

How common is lipodystrophy?

Estimates of its frequency vary considerably, from 15% to 50% of people taking anti-HIV treatment.

Metabolic disorders

Metabolism refers to the range of processes which maintain the body, including the transformation of fat and sugar into energy. People with lipodystrophy are commonly affected by metabolic disorders, such as raised levels of fats (or lipids) in their blood. However, the link between body fat changes and these disorders is unclear. Some examples include: high levels of blood fats called triglycerides or cholesterol; high blood sugar; diabetes (an inability to use sugar); insulin resistance (an inability to respond to insulin, which is necessary for processing sugar); raised liver enzymes.

What causes lipodystrophy?

A number of factors have been linked with body fat changes, including type and duration of anti-HIV therapy, duration of HIV infection, extent of damage to the immune system when anti-HIV therapy was commenced, gender, age, family history, diet, and body mass and fat prior to treatment. However, none of these have been proven to cause lipodystrophy. Some experts believe that the range of body fat and metabolic changes seen represent several separate conditions, each with their own causes which may or may not be related.

What are the implications?

Body fat changes alone do not seem to substantially contribute to poor health in the future. Nevertheless, body fat changes may be stigmatising, and are a potential source of stress and worry amongst people taking anti-HIV treatments.

High levels of fat in the blood are associated with heart disease, stroke and pancreatitis, causing concern that the metabolic disorders associated with combination therapy may lead to an increased risk of heart disease. Evidence to date is unclear. Any risk is likely to be highest in people with other risk factors such as high blood pressure, diabetes, obesity, smoking, or a family history of heart disease.

Treatment options

A number of treatments for body fat changes are being studied including human growth hormone, anabolic steroids, appetite stimulants, and weight training. In extreme cases, fat deposits may be surgically removed, though this may be unsuitable for fat accumulation in the abdomen. Several forms of surgery have been used to repair facial fat changes, and New Fill is becoming increasingly available at NHS HIV clinics.

High blood fats may be treated with drugs such as pravastatin or gemfibrozil, and insulin resistance with anti-diabetes drugs. However, the safety and effectiveness of treatments commonly used in HIV-negative people is not established amongst people with HIV. Other options which may be adopted include regular exercise, stopping smoking, switching from the contraceptive pill to another form of birth control, and dietary changes, with advice from a registered dietitian.

Changing anti-HIV therapy has also been advocated as a means of managing lipodystrophy and metabolic disorders, particularly switching a protease inhibitor for an NNRTI or abacavir. Most, but not all people who switch whilst their viral load is undetectable stay undetectable on their new combination. Some people may prefer, however, to remain on a combination which is otherwise successful.

Monitoring changes

People starting anti-HIV treatment may be monitored so that body fat changes are easier to detect. Possible options include scans which provide a picture of the distribution of fat, muscle and bone in the body, and anthropometry which measures the size of skin folds. Similarly, your doctor may measure your weight, blood pressure and the levels of fats and sugar in your blood for future reference. The latter change after eating, so the tests are done after an overnight fasting period.