Lipodystrophy: Fat Gain and Fat Loss

Abnormal body fat distribution is still a concern for many people living with HIV.

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Lipodystrophy is an umbrella term that refers to both fat loss (known as lipoatrophy) and abnormal fat accumulation (known as lipohypertrophy).

Lipodystrophy can be emotionally distressing. It can be a constant reminder of living with HIV and can reveal to others that a person has the virus. In some cases, concern about fat gain or loss may cause people to delay HIV treatment or take it inconsistently.

HIV-related fat loss and gain can be difficult to reverse, but lifestyle changes, reconstructive procedures and medications may help.

Lipoatrophy and Lipohypertrophy

Lipoatrophy involves the loss of subcutaneous fat under the skin. It usually affects the face, arms, legs and buttocks.

Lipoatrophy is most strongly associated with first-generation nucleoside reverse transcriptase inhibitors, especially AZT (Retrovir or zidovudine) and d4T (Zerit or stavudine). Although these drugs are no longer widely used, the facial fat loss they caused is often not fully reversible, leaving a lasting legacy for long-term survivors.

Lipohypertrophy often involves fat gain in the abdomen. Both women and men may experience breast growth. Some people develop a fat pad on the upper back known as a “buffalo hump.”

Fat buildup was initially blamed on early protease inhibitors, but it soon became clear that this was not the whole story—and its causes are still not fully understood.

HIV triggers chronic inflammation, which can alter metabolism in ways that promote fat gain. The seesaw effect as HIV suppresses immune function and antiretroviral treatment restores it may also play a role.

In recent years, there’s been a growing recognition that weight gain is common among people starting modern antiretroviral therapy. But while both normal overweight or obesity and lipohypertrophy can lead to a large belly, the type of fat is different.

People with normal obesity usually have soft, pinchable fat under the skin. HIV-related lipohypertrophy, in contrast, involves the buildup of fat deep within the abdomen surrounding the internal organs, known as visceral fat. This causes a hard belly, and people with this type of fat usually have a larger waist circumference in relation to the size of their hips.

People with visceral fat gain often have other metabolic problems, including diabetes, high blood pressure, and elevated blood glucose, cholesterol and triglycerides, which can raise the risk of cardiovascular disease and other health problems.

Managing Lipo

Achieving an undetectable viral load, getting CD4 counts back to normal levels and adopting a healthy lifestyle are great for overall health, but they may not fully reverse lipodystrophy.

If a person is taking older antiretrovirals that cause lipoatrophy, switching to newer medications with fewer side effects is recommended. But while stopping problematic meds can halt further facial fat loss, it generally doesn't reverse existing lipoatrophy. Adding fat or calories to the diet also does not reverse lipoatrophy, and there are no medications to treat it.

For some people, facial fillers may be an answer. Products such as Sculptra (poly-L-lactic acid) and Radiesse (calcium hydroxylapatite) can be used to fill out sunken cheeks and smooth deep smile lines. These fillers are broken down by the body over time, but Bellafill (bovine collagen plus a synthetic filler) is semipermanent.

Switching to different antiretrovirals generally does not improve lipohypertrophy. Lifestyle changes—such as a healthier diet and getting more exercise—may help, but such changes alone are often not enough.

Egrifta (tesamorelin), a growth hormone–releasing factor analogue, is approved to reduce excess belly fat in HIV-positive people with lipodystrophy. It is self-administered as an injection under the skin of the belly, usually once daily. In clinical studies, it reduced visceral hard belly fat by up to 18%, on average. But the lost fat usually returns soon after stopping treatment.

Serostim (somatropin) is a synthetic version of growth hormone. It is approved for the treatment of HIV-related wasting, and studies show that it may also reduce visceral abdominal fat. It, too, is administered as a daily injection.

Other medications, such as Glucophage (metformin) and statins, may be used to manage metabolic problems that often accompany lipodystrophy.

Equally important is how a person feels about changes to their face and body and how they affect self-esteem, relationships and quality of life. Psychotherapy or counseling may be helpful to deal with lipodystrophy on an emotional level.

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