



WEIGHT LOSS AND WASTING SYNDROME

Summary

Weight loss can be a life-threatening complication of HIV infection. A loss of 10% (or more) of normal body weight is called “wasting syndrome.” Weight loss may be caused by many factors, and more than one type of treatment may be required.

What is wasting syndrome?

Technically, AIDS-related wasting syndrome is defined as

- the unexplained loss of 10% or more of normal body weight *plus*
- chronic diarrhea (for 30 days or more), *or*
- chronic weakness with fever (for 30 days or more)

Weight loss, whether it fits the definition of wasting syndrome or not, is a common problem for people living with HIV. Some researchers estimate that 20% of HIV-positive people will experience wasting. The causes of wasting in any illness are complex and are not clearly understood. Along with physical factors, social, economic, mental, and emotional elements can contribute to wasting.

Weight loss may be caused by:

1. Malnutrition:

Not eating enough food or not eating the right kinds of food. This in turn may be caused by:

- living on a limited income;
- problems with teeth or gums (gingivitis or periodontitis);
- *candidiasis* (thrush) or *ulcers* in the mouth or esophagus which can make it difficult to eat;
- nausea or vomiting caused by illness or drug side effects;
- fatigue — not having the energy to shop for, prepare, and cook food
- feeling “full” after eating only a little because the stomach is not emptying properly (HIV gastroparesis); or
- loss of appetite due to depression, illness, or as a side effect of drugs.

2. Malabsorption:

The body is not able to absorb the nutrients it needs from food because of

- infections in the guts (such as *cryptosporidiosis*);
- HIV-related damage to the lining of the guts which interferes with absorption.



Weight loss and viral load

Weight loss that can't be explained by infections or drug side effects or lost appetite may be caused by HIV itself. Recently some researchers have shown that weight loss is associated with higher viral load. Rivera and colleagues assessed 33 HIV-positive patients whose median viral load was 46,887 copies/ml (range: <200-510,070 copies/ml) when they were referred to a wasting clinic. All of the patients had lost a median of 10.5 kg in the 12 to 18 months before they attended the clinic. All but one patient had wasting syndrome, and 15 of the 33 patients had no hint of other illness. The researchers found that viral load levels correlated with loss of body weight, as well as with changes to body mass index.

Diagnosis

It is important to find out which of many possible causes are responsible for weight loss. Often there may be more than one reason for losing weight. Once the likeliest causes are identified, the most appropriate treatments can be chosen. A variety of tests may be used to diagnose the cause(s) of weight loss, including some of these

- Weight should be measured and recorded at each doctor's appointment. The chart can be reviewed, to confirm if weight has been lost recently and how much has been lost over the year. Small but steady weight loss (less than 4 kg in 4 months) may be a symptom of a slow-growing infection like MAC. Rapid weight loss (more than 4 kg in 4 months) may suggest other infections;
- Diet should be discussed with the doctor and/or dietician to make sure enough of the right kinds of food are being eaten;
- Any other symptoms, such as fatigue, fevers, or shortness of breath, should be discussed with the doctor. These symptoms may give clues to finding the reason for the loss of weight;
- Certain blood tests may also help to find the cause of weight loss;

- If there is diarrhea, a series of stool samples may be taken and studied for bacteria or parasites and their eggs;
- An endoscopy may be performed. The endoscope is a very thin, flexible tube with a viewing device that allows the inside of the digestive system (esophagus, stomach, or colon) to be viewed by the physician. A biopsy can be done through the scope and tiny samples of tissue removed for examination.

Prevention

Because there are many causes of weight loss, there are different approaches to preventing it, including:

- Good nutrition: eating the right amount of the right kinds of food to match the body's needs. Most hospitals employ dieticians and these health care professionals can help design a balanced diet. Dieticians may be especially helpful in planning good nutrition with a limited income;
- Extra vitamins and minerals to supplement dietary sources. Two multivitamin plus mineral pills daily will cover basic needs. Additional supplements may added;
- Exercise designed to build and strengthen muscles may help prevent loss of lean body mass;
- Consulting a doctor or dentist when symptoms (bleeding gums, for example, or diarrhea that lasts more than 3 days) first appear. Prompt treatment can clear problems up more easily;
- Monitoring HIV viral load can help people decide whether it's time to start or change antiretroviral therapy.

Treatment

Again, because there may be many causes of weight loss, there are a variety of treatments available. Often it may best to combine several treatments.

Appetite stimulants

Megace is the brand name of megestrol



acetate, a synthetic version of the hormone progesterone. Megace oral solution can help increase appetite and lead to weight gain. Most of the weight gained with Megace is fat, and not the lean body mass (muscle) that is so vital to maintaining health.

Marinol is the brand name of dronabinol, a synthetic version of THC, the active ingredient in marijuana. Like marijuana, Marinol stimulates appetite by giving you “the munchies”. It can also reduce nausea and vomiting.

Anabolic steroids

Anabolic steroids are synthetic variations of the hormone testosterone. They can help build lean body mass, but they also have a “masculinizing” effect. Women should be cautious about using these drugs because the masculinizing effect may be permanent.

Growth hormone

Recombinant human growth hormone (rHGH) is a synthetic version of the hormone responsible for regulating growth and development in children. rHGH can help build lean body mass with few dangerous side effects. However, the price is so high, people may prefer to use anabolics.

Immune modulators

The cytokine network is a part of the immune system that is not fully understood. Cytokines are chemical messengers that signal the immune system cells to do their jobs. As the body fights an illness, cytokine levels increase, and along with their beneficial effects, cytokines may produce symptoms of illness. One cytokine, called tumour necrosis factor-alpha (TNF-alpha), is associated with low-grade fevers, aches, pains, and weight loss. Drugs that lower levels of TNF-alpha have been used as treatment for weight loss. Most of these have not shown any benefit, but thalidomide has shown a trend toward weight gain. It's not clear exactly how thalidomide works, but 100-400 mg every night has been shown to help some people gain weight.

For more information about specific treatments for weight loss, please see individual fact sheets on **Megace, growth hormone, anabolic steroids, dronabinol (Marinol), and thalidomide.**

Credits

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Created: November 1998

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Funding has been provided by Health Canada, under the Canadian Strategy on HIV/AIDS.

