Summary

Involuntary bodyweight loss, a common complication of infection with HIV, is an indicator of poor prognosis and decreased survival. Because of the multifactorial pathogenesis of HIV-related wasting, emerging therapies are directed at the multiple proposed mechanisms of involuntary bodyweight loss.

The initial evaluation and treatment of HIV-related bodyweight loss is focused on the identification and treatment of reversible causes of bodyweight loss, such as secondary opportunistic infections or endocrine dysfunction. Nutritional intervention should begin in the early stages of HIV infection and continue throughout the life of the patient.

Of the appetite stimulants, megestrol most consistently promotes bodyweight gain, but with a predominance of fat, not lean, body mass. Anabolic therapies such as testosterone derivatives and recombinant human growth hormone (somatropin) stimulate the addition of lean body mass and are being actively researched for the treatment of HIV-associated wasting. Finally, thalidomide, a potent inhibitor of tumour necrosis factor-α, is a potentially useful therapy that is still under investigation. New research into the treatment of HIV-related bodyweight loss is focusing on combination therapies.
Involuntary bodyweight loss frequently occurs in the setting of advanced HIV infection, opportunistic infections and HIV-associated malignancies. In 1987, the Centers for Disease Control (CDC) Surveillance Case Definition for AIDS was expanded to include the HIV wasting syndrome: ‘profound involuntary bodyweight loss >10% of baseline bodyweight plus either chronic diarrhoea (at least 2 loose stools per day for ≥30 days) or chronic weakness and documented fever (for ≥30 days, intermittent or constant) in the absence of a concurrent illness or condition other than HIV infection that could explain the findings (e.g. cancer, tuberculosis, cryptosporidiosis, or other specific enteritis)’.¹

While the frequency of wasting increases with progressive immunosuppression, bodyweight loss can be the presenting feature of AIDS. From 1987 to 1991, 7.1% of patients with AIDS who were reported in the US had wasting syndrome as the only AIDS-indicator condition and another 10.7% had wasting with another AIDS-defining illness.² In a retrospective study of hospitalised patients with AIDS, 68% of patients had a bodyweight <85% of the ideal value at the time of admission.³ In Africa, bodyweight loss is such a frequent and prominent feature of HIV infection that the syndrome has been called Slim disease.⁴

Bodyweight loss and malnutrition negatively affect the quality of life of HIV-infected individuals and contribute to their morbidity and mortality. Protein-calorie malnutrition itself is a cause of immunodeficiency,⁵ and may further impair the immune function of patients with AIDS. In addition, involuntary bodyweight loss is a predictor of the risk of hospitalisation and of survival in patients with AIDS.⁶ Guenter et al.⁷ have demonstrated that the risk of death is 8.3 times higher in patients who weigh <90% of usual bodyweight and 3.6 times higher in patients with serum albumin levels <3.5 g/dl.

Regardless of its aetiology, the degree of wasting predicts survival. Depletion of body cell mass to 54% of normal, or of bodyweight to 66% of ideal, is incompatible with life.⁸ Data from the Multicenter AIDS Cohort Study⁹ has also shown that significant bodyweight loss prior to the clinical onset of AIDS negatively affects survival. In a multivariate analysis, HIV-infected men who reported >4.5kg bodyweight loss in the 6 months preceding an AIDS diagnosis had significantly higher mortality than those without bodyweight loss, emphasising that bodyweight loss prior to AIDS is an independent predictor of survival after an AIDS diagnosis.¹⁰

To date, there is no direct evidence that therapies for HIV-associated wasting favourably affect survival. Therapy for the wasting syndrome does, however, offer other beneficial effects. Multiple prospective trials utilising a variety of pharmacological therapies for the treatment of wasting have demonstrated improvements in quality of life, functional capacity and symptomatology.¹¹ The pathogenesis of AIDS-related wasting is incompletely elucidated. It is the result of complex interactions between multiple factors including nutrient intake, malabsorption, metabolic abnormalities, and altered endocrine and immune function. Decreased food intake plays a prominent role in bodyweight loss,¹² but its exact cause is not well defined and is likely to be multifactorial (see table I). The multifactorial nature of HIV-related bodyweight loss and the questions regarding its aetiology have made it difficult to define effective interventions. Treatment must be individualised.

Increasing attention is being focused on the treatment of HIV-related bodyweight loss. Involuntary bodyweight loss of even a few kilograms is an early indicator of malnutrition. Thus, monitoring for the signs and symptoms that lead to bodyweight loss and early intervention are essential. The clinical evaluation of bodyweight loss in an HIV-infected individual should begin with a thorough history, physical and laboratory evaluation to search for opportunistic infections, endocrine abnormalities and other specific, readily treatable causes of bodyweight loss.

Patterns of bodyweight loss often give clues as to the aetiology of wasting. Rapid, sudden bodyweight loss is usually associated with opportunistic