

FAST FACTS AND CONCEPTS # 102
HIGHLY ACTIVE ANTIRETROVIRAL THERAPY AND HOSPICE
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Background There is ample information on when to initiate highly active antiretroviral therapy (HAART) but there is little guidance on counseling patients about when to discontinue HAART as the end of life nears (see *Fast Facts* #213 and #214 on prognostication in HIV/AIDS). As more HIV/AIDS patients die from conditions such as liver failure or cancer – that is, dying *with* rather than *from* HIV/AIDS – decisions regarding the role of HAART at the end of life become more complex. A simple curative vs. palliative care paradigm is inadequate; the decision involves a nuanced discussion of HAART's potential impact on quality of life within the context of the patient's prognosis and goals of therapy. Simply put, as patients with HIV/AIDS get closer to death, the potential benefits of HAART diminish relative to treatment burden. The following is a review of HAART benefits/burdens near the end-of- life.

Benefits

1. *Prevention of a retroviral syndrome.* In one cohort study, over a third of patients who discontinued HAART experienced symptoms related to discontinuation (1). However, the onset of symptoms is often 1-2 months after discontinuation of HAART, and the majority of patients do *not* experience symptoms, so this potential benefit should be balanced by considerations of treatment burden and life expectancy.
2. *Treatment of syndromes or symptoms affected by viral load or viral 'fitness.'* The severity of HIV-related neuropathy, and constitutional symptoms such as fatigue or weight loss, correlate directly to viral load (2). HAART may relieve or prevent symptoms by reducing the viral load or by changing the virus's fitness.
3. *Prevention of opportunistic infections.* HAART reduces the incidence of opportunistic infections that impact the quality of life of patients with AIDS. In one prospective cohort study of patients with advanced HIV disease, there was a 66% reduction in the number of new non-CMV opportunistic events with HAART (3). HAART's primary mechanism is decreasing viral load; however, HAART can also directly inhibit opportunistic organisms – e.g. inhibition of candidal virulence factors by protease inhibitors (4). Again, the potential for benefit will depend on the extent of the patient's disease and existing co-morbidities.
4. *Delay the progression of AIDS Dementia Complex (ADC).* Since ADC seems to be triggered by HIV replication, HAART is a key element in slowing progression. While the optimal antiretroviral therapy is not known, zidovudine has been shown in placebo controlled trials to be of benefit (5,6).
5. *Hope for a positive treatment effect.* While it is difficult to objectively demonstrate improved outcomes based on psychological effects of continuing HAART, some clinicians and many patients find it difficult to not equate discontinuation of HAART with "giving up." Finding the most appropriate means to achieve treatment goals often requires exploration of fundamental notions such as how the patient defines "hope" and how treatment goals will be served by a change in therapy.

Burdens

1. *Cost.* The high cost of these medications is a significant strain to a hospice system's budget (typical regimen costs \$250-500/ week). Since the role of HAART near the end of life is uncertain, hospice agencies may decide to decline payment. In some instances, patients may be admitted into hospice care for an alternate terminal diagnosis such as liver failure and remain eligible for medication coverage by their primary insurer, separate from their hospice benefit. A few patients can afford HAART meds out-of-pocket. Frequently, patients are forced to choose between hospice care and continuing HAART.
2. *Side effects.* Treatment with HAART is not benign. GI intolerance, headache, and fatigue accompany most antiretrovirals. Didanosine may precipitate gout and pancreatitis; zidovudine myopathy; zalcitabine (ddC) peripheral neuropathy, stomatitis, and arthralgias; efavirenz and lamivudine depression and or anxiety.
3. *Pill burden.* In a study of male veterans with a variety of chronic medical problems, perception of over-medication was associated with decreased quality of life (7).

Summary The decision to discontinue antiretroviral therapy for hospice patients with AIDS should be a part of comprehensive palliative care; how HAART serves the patient's overall goals for care should be the primary consideration. Facilitating an informed discussion of benefits and burdens of HAART is an important means to help patients achieve their goals.

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