

Aging with HIV

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Several of the physical symptoms and illnesses related to HIV disease and its treatment—such as fatigue, weight changes, memory loss, depression, and atherosclerosis—mimic typical age-related health problems. It is estimated that at least 10% of HIV positive people in the United States are 50 years of age or older—a number that will certainly increase as people with HIV live longer thanks to effective antiretroviral therapy. For older women, sorting out the interplay between HIV, aging, and the side effects of medications can be very difficult. Many health problems are exacerbated by smoking, obesity, and poor health behaviors that can lead to an increased risk of illness or death. This article addresses two common health risks in aging women with HIV: heart disease and osteoporosis.

Heart Disease

Though many people tend to think of cardiovascular disease as an affliction of older men, coronary heart disease is the leading cause of death for women in the U.S. Over 30% of deaths among women are due to heart attacks, while another 8% are due to strokes. While one in 25 women will eventually die of breast cancer, one in *two* will eventually die of heart disease or stroke.

But not all women are at equal risk. African-American women, for example, are twice as likely as white women to develop heart disease, which is thought to be related to a higher incidence of high blood pressure, diabetes, and obesity among this group. For all women, both heart attacks and strokes are strongly associated with smoking, high blood pressure, elevated blood lipid (fat) levels, diabetes, poor diet, and lack of exercise. Fortunately, many of these risks can be reduced by adopting a healthier lifestyle.

Are women with HIV at greater risk for developing heart disease than HIV negative women? It is still uncertain just how much HIV or its treatment may increase the risk of heart attack and stroke. A growing number of studies have attempted to evaluate how HIV and/or antiretroviral medications affect cardiovascular disease, but much of this research has failed to produce definitive answers. Research has yielded conflicting results, which is not surprising due to the difficulty of sorting out all the overlapping

factors that affect both heart disease and HIV (see “Cardiovascular Disease in People with HIV,” in the Summer/Autumn 2002 issue of *BETA*). For example, we know that some of the traditional risk factors for cardiovascular disease—such as elevated cholesterol and triglycerides—are more common in people with HIV. These metabolic changes may, in fact, turn out to be associated with highly active antiretroviral therapy (HAART), yet undoubtedly the benefits of taking medicines that help control HIV are well documented. On the other hand, a behavior such as smoking is clearly associated with a greater risk of heart disease and has no health benefits.

Long-term studies comparing similar populations of women with and without HIV are helping to sort out some important issues. The ongoing Women’s Interagency HIV Study (WIHS), established in 1993 to investigate the impact of HIV infection on women in the U.S., has conducted the most targeted study to date regarding women, HIV, and cardiovascular disease. This study examined the occurrence of heart problems in three groups: HIV positive women taking HAART, HIV positive women who chose not to take HAART, and HIV negative women who were matched for socioeconomic and behavioral characteristics. More than 1,500 women were evaluated. The findings indicated that the primary associated risks for heart disease were smoking and increasing age—not HIV disease—

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regardless of whether or not the women were taking anti-retroviral medications.

Smoking cessation and controlling hypertension and diabetes are by far the most important factors in attaining good cardiovascular health. Particularly in patients with advanced HIV disease, it is clear that the immediate benefits of HAART far outweigh the risks of cardiac disease.

Osteoporosis

Bone is a dynamic material that is continuously remodeled through rebuilding and resorption of the calcium matrix. When an imbalance occurs in this process—causing greater resorption than deposition of calcium—the result is a weakening of the bone. Postmenopausal women are much more likely to experience bone thinning or loss of calcium from the bones, a condition called osteopenia (mild to moderate bone loss) or osteoporosis (more severe bone loss). Osteoporosis can lead to curvature of the spine and increased risk of fractures. (For more information, see “Osteoporosis,” in the Summer/Autumn 2001 issue of *BETA*.)

Osteoporosis occurs most often in women over the age of 50. Factors such as low body weight, smoking, lack of exercise, inadequate calcium intake, heavy alcohol consumption, and certain medical conditions including kidney or liver failure, previous thyroid surgery, asthma, and chronic lung disease increase the risk of osteoporosis. The condition may also be worsened by the use of some medications, such as heparin, antiseizure drugs, and prednisone. Studies on the effects of HIV and HAART on bone loss have produced conflicting results. Some indicate that HAART exacerbates bone loss, while others suggest that it has little or no effect.

One study, conducted by Sara Dolan, NP, and colleagues from Harvard Medical School, found that the prevalence of osteopenia was 2.5 times greater in HIV positive women than in HIV negative women, and that the use of antiretroviral therapy did not lower or increase their risk. Other risk factors for bone loss included low body mass index, a history of low body weight, low body fat percentage, and infrequent menstruation. Additionally, the pattern of bone loss in HIV positive women differed from that seen in postmenopausal HIV negative women, with different blood markers of bone metabolism and a shift in the balance between bone formation and resorption. In another WIHS study, Kathryn Anastos, MD, and colleagues measured bone mineral density in 88 HIV negative and 184 HIV positive women (of whom 94 were taking HAART and 90 were not). The prevalence of osteopenia/osteoporosis was 6.4% in the HIV negative women, 18.9% in the HIV positive women not on HAART, and 20.4% in the HIV positive women receiving HAART. This study, too, indicated that HIV infection increases the risk of osteoporosis, regardless of whether or not antiretroviral medications are used.

Several other studies, however, have found that some of the medications used in HAART combination regimens may increase the rate of bone loss. To complicate the issue further, research at the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) suggested that some anti-HIV drugs may actually preserve bone by slowing resorption of calcium. Therefore, it is difficult to draw definitive conclusions from this research other than that the process of bone resorption and deposition is affected by many factors, including HIV and its treatment.

One thing that is clear is that it is possible to reduce the risk of developing osteoporosis through regular weight-bearing exercise such as walking, adequate dietary calcium intake (along with vitamin D), and avoiding smoking or excess alcohol use. Most experts believe that standard medications approved for the treatment and prevention of osteoporosis are appropriate for women with HIV, though as yet there have been no studies to show whether these medications have the same results for HIV positive and HIV negative women. However, a few small studies that included mostly men have found that alendronate

Good health behaviors are important for everyone to help prevent heart disease and strokes. Here are a few things you can do to reduce your risk:

- Quit smoking. Talk with your healthcare provider if you need help.
- Eat a well-balanced, low-fat diet. Cut back on foods high in saturated fat and cholesterol.
- Check your blood pressure, cholesterol, and blood sugar levels regularly, and keep them under control.
- Exercise regularly. Exercise does not need to be strenuous; walking, climbing stairs, and other kinds of aerobic exercise have long-term health benefits.
- Lose weight if you are overweight or stay at a healthy weight.

(Fosamax) plus calcium and vitamin D improved bone loss in people with HIV.

One of the greatest perils of osteoporosis is an increased risk of fractures due to falls. Elderly women and HIV positive women may be more likely to experience falls because of medication side effects and/or neuropathy (which can interfere with sensation in the feet and lower legs). For this reason, it is important to reduce the risk of falls in the home. Removing throw rugs and other hazards, using nonskid bath mats and tub handrails, and wearing shoes with nonskid soles are important measures to prevent broken bones.

Conclusion

In addition to heart disease and bone loss, older women with HIV may experience other age-related problems, including arthritis, difficult menopausal symptoms, and cognitive impairment. While many older people with HIV were infected decades ago, others acquire the virus later in life. Unfortunately, many older individuals do not perceive themselves as being at risk for HIV infection—therefore neglecting to practice safer sex or get tested for the virus—and their healthcare providers may fail to consider HIV as a potential cause of illness. The good news is that older people with HIV appear to respond as well to antiretroviral therapy as their younger counterparts.

Arthritis, which affects nearly 70 million people in the United States, may be caused by a variety of factors, including autoimmune reactions and wear and tear due to aging. To date, research has not shown how arthritis is affected by HIV or its treatment.

Some experts have suggested that women with HIV may experience earlier menopause and more severe menopausal symptoms than HIV negative women. But many such anecdotal reports come from the pre-HAART era, when severe illness and wasting were more common. Controlled studies of menstrual irregularities and hormonal abnormalities in HIV positive women have yielded inconsistent results (see “HIV and Hormones,” in the Summer 2004 issue of *BETA*). In the November 15, 2005 issue of *Clinical Infectious Diseases*, Ellie Schoenbaum, MD, and colleagues reported on a study of menopause in 571 HIV positive and HIV negative women. They concluded that HIV infection and immunosuppression were associated with an earlier onset of menopause, but noted that more research is needed to determine whether early menopause puts HIV positive women at greater risk for osteoporosis and heart disease. Because studies have not yet clarified the risks and benefits of hormone replacement therapy in this population, HIV positive women should consult their doctors for individualized recommendations.

While it is clear that HIV affects the brain, “few studies have investigated the complex interactions between HIV infection, aging, and neuropsychiatric diseases,” according to Nathalie Casau of the Albert Einstein College of Medicine, whose review of HIV and aging appeared in the September 15, 2005 issue of *Clinical Infectious Diseases*.

Compared with the early years of the epidemic, people with HIV are now much more likely to live well into their senior years, and many are experiencing age-related conditions they never expected to face. As such, there is an increasing need for research on how HIV disease impacts—and is impacted by—common conditions associated with aging. Much also remains to be learned about how aging affects the immune system. Further, there is a growing need for healthcare providers treating HIV positive people to integrate geriatric concerns into their practices. But one thing is certain: healthy habits are associated with longer life expectancy and improved quality of life for people of all ages.

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