



Toronto People With AIDS Foundation

Treatment Bulletin

Aging & HIV

February 2010



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The Treatment Resources Program at the Toronto People With AIDS Foundation provides information and resources to empower people living with HIV/AIDS to be proactive around their health by working in partnership with their health care providers. We do not recommend or promote any treatment in particular. We strongly urge those interested in any specific treatment to consult a wide range of resources, including a qualified medical and/or complementary therapy practitioner who has experience in working with HIV+ individuals.

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Adults over the age of 50 are making up an increasingly large portion of the population of those living with HIV/AIDS. Since the introduction of highly active anti-retroviral therapy, or HAART, HIV has become a manageable, chronic illness that has allowed those it affects to live longer than was ever thought possible. While we celebrate this news, it also presents a new challenge: how does aging affect those with living with HIV?

In general, the prevalence of certain health conditions increases with age. The risk of developing heart disease, cancer, osteoporosis, and cognitive impairment, all increase with aging. With many of these issues also affecting HIV+ individuals (PHAs), looking at how the combination of HIV infection and age-related disease affect older PHAs is becoming vital.

In this treatment bulletin we explore what is known to date about aging and HIV and things that you can do to help you age well with HIV.

Aging & Immune system

As we age, the organ responsible for producing T-cells (one of which is the CD4+ cell affected by HIV infection) decreases in function, making older adults more susceptible to infection and making those infections more difficult to fight off. HIV infection also affects the production of T-cells, thus there is a concern that older HIV+ individuals may have a poorer prognosis than younger PHAs.

Another way in which both HIV and aging impact the immune system is in the gastrointestinal (GI) tract. Our GI tracts contain immune tissue, which becomes depleted of CD4+ cells with HIV infection. Aging causes a similar effect and so may be exaggerated with HIV infection.

Aging & HAART (highly active anti-retroviral therapy)

HIV disease progression is largely dependent on how well the immune system responds to treatment. Studies completed so far seem to indicate that older adults respond to treatment somewhat differently than their younger counterparts. In general it seems that viral load is better suppressed but that CD4 counts do not increase as well as in younger PHA's on HAART. Also, older patients are less likely to experience treatment failure on their initial treatment regimen, which might be due to a more stable lifestyle and better adherence to medication.

The introduction of HAART has also been associated with an increased risk of a number of conditions that are also more prevalent with aging. Some of these conditions are discussed below.

Age-related diseases

There are several health conditions that occur at higher rates with aging, and being HIV+ can increase the likelihood of developing some of these conditions.

Bone disease

Loss of bone density naturally occurs with aging. When we lose too much density, our bones become brittle and are at an increased risk for fractures. This condition is called osteoporosis. While women are more prone to the development of osteoporosis because of hormone related changes that come with menopause, men can also develop osteoporosis as they age.

Studies indicate that HIV+ individuals commonly have a lower bone mineral density (a test of how dense, or strong, your bones are) than the average population in the same age group and have a higher prevalence of osteoporosis. Certain HAART medications, and beginning a HAART regimen in general, also seems to contribute to an increased loss of bone, the reasons for which are still unknown.

There are a number of factors, some that can be controlled, that can increase your risk of osteoporosis, regardless of HIV status. These include:

- Older age
- Female
- Family history of osteoporosis
- Low body weight/small & thin body frame
- Caucasian, Asian, or Latino descent
- Post-menopausal females
- Low testosterone in men
- Smoking
- Inactive lifestyle
- Excess alcohol intake
- Diets low in calcium and vitamin D

You may notice that some of these risk factors can be avoided or modified. Prevention of bone loss is always the best strategy, however, should your bone density become too low, there are medications that your doctor may consider prescribing that work effectively and can help you to increase your bone density.

Tips for Reducing Bone Loss

Exercise is key to reducing bone loss and keeping your bones strong and healthy. Weight bearing exercises, such as climbing stairs, walking, and running, trigger your bones to grow thicker.

Diet also plays an important role, both in the prevention and the development of osteoporosis.

- Both calcium and vitamin D are extremely important in the maintenance of health bones. Calcium is a building block for your bones and vitamin D is essential for your body to absorb and use calcium. Since your body is constantly changing over the various substances in your bone, when either of these two nutrients are not available to your body in the right amounts over a prolonged period of time, bones lose their density and osteoporosis develops. Calcium can be found in foods such as dairy, tofu, fortified rice or soy milk, dark leafy green vegetables such as kale, and fish such as salmon and sardines. Vitamin D is made in the skin when it is exposed to the sun, but can also be found in milk, fortified rice or soy milk, and fish such as salmon and sardines.
- Wheat bran, spinach, and caffeine all contain substances that decrease the absorption of calcium in your body. If you take calcium, try to avoid taking it with meals that contain these foods.

Supplementation can be helpful in preventing osteoporosis, especially if you have to restrict your diet and avoid calcium rich foods. Vitamin D deficiency is especially prevalent in Canada because of our cold climate and short days in the winter, meaning less exposure of our skin to sunlight. Adding a calcium and vitamin D supplement to your diet can ensure you are getting adequate amounts of both nutrients and help to keep your bones strong. Because calcium can inhibit the absorption of many drugs, check with your healthcare practitioner or a pharmacist to work out the timing of when to take each medication and supplement.

Smoking can make it harder for your body to absorb calcium and the chemicals found in cigarettes are bad for the cells in your bones. If you are a smoker and are at risk for or concerned about developing osteoporosis, consider quitting. There are many resources available to help you through the process – from conventional treatments such as medication to complementary therapies such as acupuncture.

Alcohol in excessive amounts can be harmful to bone health in many ways. It can prevent you from getting enough calcium and make you more prone to falls and broken bones. Low to moderate levels of alcohol (no more than 2 drinks daily) don't have any negative effects on your bone health.

Cardiovascular disease and Metabolic Syndrome

Cardiovascular disease is a general term to describe a variety of conditions affecting the heart and blood vessels. The most common form of heart disease is coronary artery disease, where the blood vessels that supply blood to the heart muscles become clogged, and can lead to a heart attack. One of the most dangerous things about heart disease is that it has no symptoms, and you may not know you have it until a serious consequence, such as stroke or a heart attack, occurs.

Metabolic syndrome is also a name for a cluster of medical conditions that, when they occur together, increase your risk for heart disease, stroke, and diabetes, all of which also occur at increasing rates as we age. Metabolic syndrome is diagnosed when you have 3 or more of the following:

- Obesity, especially around your waist or abdomen
- High blood pressure
- High triglyceride (a type of fat) levels in your blood
- Low levels of HDL, the “good” cholesterol, in your blood
- Increased levels blood sugar levels, which can indicate you are becoming resistant to insulin, a hormone that helps to control sugar levels in your body

Metabolic syndrome, heart disease, and diabetes occur more frequently with increasing age, even without HIV infection as a factor. However, since HAART can produce changes to the metabolism that promotes the development of these conditions, aging adults on HAART may be at an increased risk. HAART has been associated with increased levels of triglycerides in the blood (fat that promotes heart disease), as well as increased insulin resistance and diabetes.

While some risk factors for heart disease and diabetes, such as age, sex, and family history, are out of our control, many risk factors, such as smoking, lack of exercise, weight, and diet, can be modified and have a significant impact. Even with our best efforts to change our diets and lifestyle, these conditions can still occur, and your doctor may choose to control them with medication. Make sure you get a complete physical done yearly and regularly monitor your blood pressure and overall health.

Tips for Reducing the Risk of Heart Disease & Metabolic Syndrome

Exercise is one of the most important things you can do to help reduce your risk of both heart disease and diabetes. Aerobic or cardiovascular exercise such as a brisk walk for 30 minutes daily can improve your blood pressure, cholesterol, and insulin levels, not to mention its positive effects on mood and stress tolerance. Consult your physician if you are starting a new or rigorous exercise plan.

Diet is also another important factor that can be modified to decrease your risk of these conditions. Eat a diet containing plenty whole grains and fibre (such as legumes, fruits, vegetables) and low in saturated fat (fat that comes from animal products such as meat, poultry, butter, etc). Try to consume plenty of good fats like those found in olive oil, flax seeds & nuts.

Alcohol, in mild-moderate amounts has actually been shown to help decrease the risk of heart disease, however, should be limited to one drink per day in women and two in men.

Smoking is one of the biggest risk factors for heart disease. It increases your blood pressure, decreases your tolerance for exercise, increases tendency for the blood to clot, and directly contributes to coronary artery disease by causing build up of fatty plaques on the inside of your blood vessels. If you are at risk for developing heart disease, quitting smoking can have an incredibly significant impact on decreasing that risk.

Cancer

As with all of the conditions we have discussed so far, the risk of developing cancer definitely increases with age. Traditionally, HIV-associated cancers such as Kaposi's sarcoma and lymphomas have been the more prevalent forms of cancer in PHA's. With aging, however, non-AIDS defining cancers, such as lung, bowel, and anal cancer, are becoming increasingly more common among PHA's.

Cancers can be difficult to prevent, but all of the tips that have been discussed thus far also apply to cancer prevention. Quitting smoking, losing weight, limiting alcohol intake to moderate levels, and eating a healthy diet low in animal fats can all help.

One of the most important things you can do for cancer prevention is make sure your doctor is regularly screening for any cancers that may be in your family history. Depending on your family history your doctor may decide routinely order blood tests and/or imaging tests such as colonoscopies or mammograms. As unpleasant as some of these may be, it is important that you do not put them off, since cancers that are caught earlier can generally have a better outcome.

Cognitive Dysfunction

We know that aging affects the brain. Studies have found that HIV-associated dementia was more common in adults over the age of 50 when compared with younger PHA's and that older adults with detectable virus in the cerebrospinal fluid (the fluid that surrounds your brain and spinal cord), are twice as likely to have cognitive impairment than those with undetectable levels. How aging in the context of HIV affects the brain and cognition is still largely being studied.

HIV & Aging

Although HIV infection and its treatment can increase the risk of many diseases that are associated with aging, there are also many other contributing risk factors that can be changed. Whether you are HIV+ or not, the impacts of a poor lifestyle can significantly increase the chances of developing many of the conditions discussed in this bulletin.

While the physical aspects of how aging affects PHA's are important, we must not forget the social and emotional aspects associated with aging. Aging populations in general lack social support and are at higher risk for isolation and depression, especially as others in their social circles age and pass on. It is important to try to stay connected to society, friends, and family as we age, and have a support network in place not only to help with the physical difficulties that can come with aging, but also to remind us that we are a valuable, important part of society, no matter what stage of life we are in!

Acknowledgements

This treatment bulletin was written and designed by Jennifer Grochocinski, ND, Treatment Resources Coordinator at the Toronto People With AIDS Foundation (PWA)

PWA thanks Melissa Egan and the Canadian AIDS Treatment Information Exchange (CATIE) for reviewing the content of this treatment bulletin to ensure accuracy.

PWA also thanks Abbot Virology, Bristol-Myers Squibb, Gilead, ViiV Healthcare in partnership with Shire Canada, Merck Frosst, and Tibotec for supporting PWA's Treatment Bulletins and Lounge & Learn workshop program.



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Mission

The Toronto People With AIDS Foundation exists to promote the health and well-being of all people living with HIV/AIDS by providing accessible, direct, and practical support services