TITLE: HIV AND AGING

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HIV and Aging
[video transcript]

[00:00:00] - [Narrator] Today, what I'll do in the next 20 minutes, hopefully, is, cover the topic of HIV and aging.

[00:00:14] My disclosure slides, or slide, I should say.

[00:00:20] Next slide, and the objectives for today.

[00:00:23] I think this is not new for all of us, but this is something that many of us, as HIV providers, will have to learn about, or experience, as we practice HIV medicine, and that is, our population is aging. And this is just a quick snapshot slide from the Centers for Disease Control. It shows, this is an estimate for 2013, that about 25 to 30% of those living with HIV are 50 years or older, and those numbers are expected to actually increase significantly. So, the latest projections are about, by 2030, almost 60 to 70% of those living with HIV will be 50 years or older.

[00:01:02] When we think about aging and antiretroviral therapy, I'm going to sort of hit on different hot topic buttons here, so, when we think about HIV and antiretroviral therapy, and aging, we know that older adults actually do very well, from a virologic standpoint. If you look on the graphic on the left, this shows you, just in terms of virologic response, that actually, older adults respond very well, and very similar to their younger counterparts. However, from an immunologic standpoint, meaning their ability to have restoration, or changes in their CD4 count, that actually is less robust than younger individuals, speaking to the need to treat early, and really identify those with HIV at a younger age so that they can benefit the most from antiretroviral therapy.

[00:01:49] And when we think about antiretroviral therapy and aging, there are really many different issues that come into play. There's issues of comorbidity, polypharmacy, we know that older adults, just in general, can experience higher adverse events, and adverse side-effects from antiretroviral therapy, and I'll kind of delve into those a little bit more.

[00:02:07] I love this little cartoon; I thought I'd throw this in here. And it just says, there are some things that they don't teach in medical school. I think you've got one of those things. And, I can tell you, just from my own personal experience, this actually marks my 20th year in HIV medicine. And, you know, when I started out, I was really an HIV specialist, and then I had to learn how to do primary care, because that was the need for our clients. And now, as our population is aging, we all have to learn how to take care of older adults, which actually is a specialty in and of itself.

[00:02:39] But really, when we think about older adults, one of the big issues is the concept of multi-morbidity. I'm sure in all of our trainings, and all of our education, we've learned about heart disease, we've learned about hypertension, we've learned about diabetes, but really, when we see it in the real world, what we're seeing is not just hypertension or diabetes in isolation, but really, hypertension in somebody who is diabetic, and also living with HIV, so this whole concept of multi-morbidity, or multiple chronic conditions, is actually the most common issue that we see.
And, this is just a graphic that distinguishes HIV-infected individuals, on the left side, versus HIV-uninfected individuals. And just to call your attention to the dark blue bars on the top, you can see that those living with HIV actually will experience three or more co-morbidities, or at much greater prevalence than their HIV-uninfected counterparts, at the same age.

And this was actually very interesting. This was presented at CROI last year, looking at, really, an older adult population. This is actually from France. And they looked at a clinic there, and they divvied up their patient population into the elderly, which they categorized as 50 to 75, and surely, a geriatric population, 75 and older. And you can see, in red, just the number of, or the percentage of patients who have chronic co-morbidities. And you can see they're listed on the bottom there, things that we probably see and deal with all the time: diabetes, hyperlipidemia, cardiovascular disease, renal failure, depression as well.

And you know, we've made significant advances with HIV treatment, so much that we can actually treat HIV with one pill a day, for many individuals. Now, when we think about that, in the context of an aging cohort, it's really one pill a day on top of their medication for hypertension, their two pills for diabetes, their three pills for, you know, sleep insomnia, pain management, all of that.

So, it's really not just one pill a day, but we really are faced with this issue of potential drug-drug interactions, and I know Chris talked, last month, about drug-drug interactions. But these are just a list of some common medications that probably many of us prescribe for our older adults, that may or may not necessarily interact with some of the antiretrovirals that we prescribe.

And it's not just an issue of drug-drug interactions, but really, just in terms of, when we think about an aging population, there are actually physiologic changes that can alter pharmacokinetics, and pharmacodynamics. You can see, in this little cartoon here, that really, what happens with age, is that there's a decrease in plasma volume and body water, and an increase in body fat, and that can alter how drugs are metabolized in an older adult. This kind of speaks to that old adage of, when you're prescribing for an older adult, to start low and go slow. So really, when you're thinking about prescribing other medications, you want to try to go with the lowest dose possible, and it might take a little bit longer to titrate, but really, a part of this is due, in part, to some of the physiologic changes, with pharmacokinetics, and pharmacodynamics.

When we talk about polypharmacy, these are two different studies; on the left is the ATHENA. It's a modeling study, kind of projecting how many different medications people will be expected, to take in the next few years. They estimate that about 20% of HIV patients will be taking more than three meds, in addition to their antiretroviral therapy. And then on the right-hand side, is just a graphic that shows you data from the Swiss cohort, where you can see that, actually, the people who were older, 65 and older, the proportion, or the number, taking four or more medications is about 20% or so.

Other concepts in aging, this is in general, the concept of frailty, I'm sure people can see frailty. If you see it, you know what it is. But really, there is some set criteria, or set markers. Frailty has been defined, or characterized, by five components. That includes unintentional weight loss, exhaustion,
weakness, slowness, low levels of activities. And we know that HIV-infected individuals are more likely to experience frailty than their HIV-uninfected counterparts.

In terms of other chronic diseases, we know that diabetes is also something that we see in greater proportion in our population of persons living with HIV compared to non-HIV individuals; about four times as many cases of diabetes were discovered, in this cohort, in the MACS cohort study.

Also note, cardiovascular disease is a little bit more prevalent. This also looks at the rates of cardiovascular disease in those who are HIV positive, versus those who are HIV negative. And you can see that there is a dramatic increase after age 50, in terms of the prevalence of cardiovascular disease in our patient population.

Now, interestingly enough, I think one of the challenges of practicing HIV medicine, in this era of evidence-based medicine, and using prediction tools to help us understand the risk for aging individuals, there is not a lot of data. I thought this was kind of interesting. This was presented a couple years at CROI. I'm sure many of you are familiar with the two cardiac risk score calculators: the Framingham Risk Score, and the American College of Cardiology Calculator for major cardiovascular events. And, what the researchers did here, was they looked at their HIV population, this was out of Boston, and what they did was, they plugged in the numbers, based on the calculators, and they found that, you can see in the darker bar, the gray bar at the bottom, what was predicted, based on the risk calculator. And then what you see in the orange, is actually what was observed. You can see that the current risk calculators actually under-predict what is actually occurring in a patient population. Some of the tools, and some of the things that we use for measuring, and calculating risk for events such as cardiovascular disease, may actually be underestimated in our HIV population.

But, the other thing to remember is that cardiovascular disease is not just an issue of HIV infection, and antiretroviral therapy, but really, there are many modifiable risk factors, located on the right-hand side of this diagram. You can see, diet, nutrition, tobacco use plays a huge role. And, managing and monitoring some of these other things can help mitigate the progression, or the occurrence of chronic diseases such as cardiovascular disease.

Other issues that we see in the aging population is cancer. Although there's been a decline in AIDS-defining cancers, and those being Kaposi sarcoma, non-Hodgkin's lymphoma, invasive cervical cancer, what we're really seeing is an increase in non-AIDS defining cancers. Things such as lung cancer, prostate cancer, you know, rectal cancer. And again, tobacco cessation and tobacco use are really critical in helping mitigate, or manage, or prevent, some of these concurrent conditions.

Cognitive health, another issue that I think older adults tend to be concerned about, and face, are also affected by many different factors including: substance use; stress, depression, anxiety; vascular disease; and chronic HCV infection; have all been associated with affecting cognitive health. These are things where, if we, as clinicians, can take a proactive approach, in terms of identifying, screening, and treating, and managing these things, we might have better outcomes, in terms of cognitive health for our older adult patients.
These are just some recommendations, or some strategies to help improve cognitive health. Exercise actually has been shown to help improve cognitive health, in aging individuals, treating mood disorders, and avoiding other substances.

Let's switch a little bit to prevention, and preventive screening, and age-appropriate screening. There are a variety of different age-appropriate screenings. Some of them, we probably know very well, like colon cancer screening; I think many people are aware of the recommendations here, but I just threw this in as a highlight, to remind folks that there is a USPSTF recommendation on the use of annual screening with low-dose CAT scans, for people who smoke, and we know that our patients with HIV have a higher prevalence of tobacco use.

Other screenings that are important to consider in the older adult, includes: screening for mood disorders, and there is a PHQ-9, but there's also specific age-appropriate ones, the Geriatric Depression Scale is one, there's also a fall screening, which is important to assess in our older adults. DXA Scan, for our patients who may be at risk for osteopenia and osteoporosis, and we know that some of the antiretroviral therapy that we prescribe, can also impact bone health.

Other things to look for or assess in our patients: screening for vision and hearing loss, which can affect quality of life as well.

I talked about exercise briefly; the recommendation is about 30 minutes of moderate intensity exercise, five times a week, for older adults, and then also muscle strength training and resistance training is really important, to help prevent falls, and to maintain bone and muscle health as well.

Nutrition, I'm just going to say that many older adults are at risk for malnutrition, and so, monitoring, and making sure that older adults are able to meet their nutritional needs. Many things can affect this, including things such as food, but also, issues such as oral health, and the ability to chew and masticate food can impact their nutrition.

We talked about vaccines briefly, with the case study, so I won't touch on those.

Advanced care preferences, making sure that you talk to your patients, and have those discussions early on, is really important. And do know that those can change, so even though it's on record, just re-assessing it annually, or so, to make sure that there have been no changes in their advanced care planning, is important, as you assess your patients.

And then of course, financial and social support is important, as older adults become more dependent upon others for caregiving, making sure that they have adequate social and financial support and resources, and social work, plays a great role in terms of making sure that those systems are in place.

There are some guidelines and recommendations, produced by the American Academy of HIV Medicine, and you can access them here.
[00:13:16] There's a website at the end, with the link for that. Just in terms of prevention, this is one thing that, I'll wrap up here in a minute, is, I think something that we kind of forget about, is that, older adults and HIV prevention, older adults are still at risk for acquiring HIV, and then, other STIs as well.

[00:13:37] I thought this was very encouraging for me, which is that older adults, this was a survey of, conducted by AARP, and they found that adults actually, 75 to 85, both men and women, were having sex at least two to three times a month, about 60% of folks reported that.

[00:13:53] So, older adults are still having sex. I think many times, clinicians forget to talk about that, because, older adults don't have sex, right? But do know that, just in terms of prevention, that, some of the other things that come up is that providers don't ask about sex or STIs, so making sure that you ask about that, offering PrEP if it's appropriate, in those situations, and screening for STIs is also important as well.

[00:14:20] A couple take-home points: co-morbid chronic conditions play a role in our patients; modifying risk factors, such as smoking cessation, exercise, can help reduce the risk of other chronic diseases; and, early diagnosis and treatment can improve outcomes; newer agents may reduce the risk of certain co-morbidities; and everybody should work together to help our patients achieve optimal health.

[00:14:44] And, these are the resources that I alluded to earlier, that if you have the time, they're great to look at. Done.

- [Man] Jeffrey, excellent, that was fantastic.

[Video End]