Transcript Details
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Innovations in Adherence: Long-Acting Agents for Infectious Diseases

Announcer:
You're listening to *Clinician's Roundtable* on ReachMD. On this episode, we'll hear from Dr. Charles Flexner, who's a Professor of Medicine of Pharmacology, Molecular Sciences, and International Health. He's also the Chief Scientific Officer of the Institute for Clinical and Translational Research at Johns Hopkins University. Dr. Flexner is here to discuss the session he presented at the 2024 Conference on Retroviruses and Opportunistic Infections that focused on how long-acting formulations are changing the management of infectious diseases. Let's hear from him now.

Dr. Flexner:
The title of my session was "The End of Oral?" with a question mark, and it was meant to be a provocative title, although I do think that in the future we are going to see long-acting and extended-release formulations take the place of pills, particularly daily oral therapy, for chronic infectious diseases like HIV but also other related infections, like tuberculosis, viral hepatitis, malaria, and possibly even other acute infections—for example, sexually transmitted infections. And the talk was intended to introduce people to a rapidly advancing field of wider availability of long-acting formulations, especially injectable formulations, that are intended to get around this problem of adherence with daily oral therapy.

The main adherence advantage of long-acting regimens is the fact that the regimen is administered infrequently, often very infrequently as compared to daily oral therapy. For example, in the HIV field right now, there are three approved long-acting injectable drugs for treatment, and one of those drugs is also approved for prevention, and one of those drugs is also in development for prevention. So those three drugs are cabotegravir, which is FDA approved in the US for both treatment and prevention of HIV—it's an injectable drug given every four weeks or every eight weeks—long-acting rilpivirine is an injectable drug given with cabotegravir every four weeks or every eight weeks, and lenacapavir is an injectable drug given every six months, although right now it is only approved as a drug to be used in treatment combined with daily oral therapy. And so you can imagine that if a patient is having a hard time taking pills every day, if you could give them the option of getting an injectable drug at the doctor's office or perhaps in a pharmacy every month, every two months, or even every six months, many people having difficulty taking daily pills might find it much easier to show up intermittently at the doctor's office or at another healthcare facility to get an injection of a long-acting drug that would serve the same purpose.

As part of this talk, I did discuss the use of long-acting formulations in treatment and prevention of other important acute and chronic infectious diseases: tuberculosis, malaria, and viral hepatitis. I think the use of long-acting formulations would differ in all three of those settings. So for example, for tuberculosis there is a long-acting formulation of bedaquiline, an anti-HIV drug that is available orally and is mainly used for drug-resistant tuberculosis, but there is a long-acting injectable formulation of that drug that could be given once every six months, and that might be all you would need in the setting where you're trying to prevent the recurrence of latent TB. And certainly in the treatment setting, if you could partner it with another injectable drug that could be given every six months, you might have a dynamite way to treat tuberculosis with even just one or maybe two injections rather than having to take pills every day for three to six to nine months.

In the case of viral hepatitis, hepatitis C I think is particularly an attractive target for a long-acting intervention.

Finally, for a disease like malaria, if you had a long-acting injectable drug for malaria, it could essentially become a chemical vaccine. You could go into areas where malaria was endemic, and you could inject everybody with a long-acting drug every few months, and over the period of one rainy season, you could completely eradicate malaria from that region since humans are an obligate host for the life cycle of malaria.

So as you can see, these long-acting formulations give us the opportunity to do things in the control of infectious diseases that we never could have imagined before.

Announcer:
That was Dr. Charles Flexner talking about his presentation at the 2024 Conference on Retroviruses and Opportunistic Infections that focused on long-acting formulations. To access this and other episodes in our series, visit *Clinician's Roundtable* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!