

HIGHLIGHTS FROM THE CROI 2014

The 21st annual Conference on Retroviruses and Opportunistic Infections (CROI) was held in Boston from March 3-6, 2014. Last year we learned about the Mississippi Baby, the first toddler “cured” of HIV. The Mississippi Baby remains “cured” of HIV. The results were reported by our own Deborah Persaud of Hopkins who also reported on another baby from California who is also being treated in the same manner as the Mississippi Baby. In the California case, the baby was treated four hours after birth and remains on treatment. We will not know if this very early treatment case will be successful until the child has a treatment interruption, the only way we have at this juncture to ascertain whether the baby will experience a viral load rebound while not taking antiretroviral (ARV) treatment.

An HIV “cure” will be a long time coming. But you have to start somewhere. What we learned at CROI is that the earlier you treat with ARVs, the better outcome patients will have. If a person is treated very soon after infection, we may be able to prevent damage in the gut and resulting immune activation that fuels HIV spreading throughout the whole body.

The bad news was that two Boston patients that we hoped were “cured” last year experienced viral rebound and needed to restart ARVs. These patients had cancer like the Berlin patient, the only known adult to be “cured” of HIV. They were given bone marrow transplants (BMTs), but the BMT donors did not carry the delta 32 mutation like the Berlin patient’s donor. The delta 32 mutation is very rare and is thought to make one immune to HIV. Although this is bad news, we are in very early stages of “cure” research. We have so much to learn. Every experiment adds to our knowledge.

The big news in ARV research was continued progress in long-acting ARVs. A CROI presentation showed that Endurant, plus GSK 744 were as effective as Sustiva plus two other drugs and had less side effects. The good news is that Endurant and GSK 744 can be combined into one injectable formulation which is administered only once monthly.

The new drug doravirine was also shown to be as effective as Sustiva with less Sustiva related neurologic side-effects. There was also a report on a new “attachment” inhibitor which may be beneficial to highly treatment experienced patients who need new life-saving drug classes.

There was very interesting HIV “Treatment as Prevention” news at CROI. We knew from a study known as HPTN052 that in heterosexual couples where one partner was HIV+ and the other was HIV-, there was only a 4% risk of transmitting HIV if the HIV+ partner had an undetectable viral load as a result of ARV treatment. But there was a limited number of gay couples in HPTN052. The good news is that results from the PARTNER study showed the likely chance of transmitting HIV from condomless anal sex was 1% without and 4% with ejaculation if the receptive partner was HIV- and the HIV+ partner had an undetectable viral load. This study proves that “Treatment as Prevention” works for both gay and straight couples.

The most exciting news presented at the conference was about new Hepatitis C Virus (HCV) drugs known as direct acting antivirals (DAAs). DAAs have revolutionized HCV treatment. HCV has been treated from 24 to 48 weeks with highly toxic drugs that are only between 60 and 80% effective in the past.

Studies in HCV mono-infected people on 12 weeks of DAA therapy showed a 67% cure rate in GT 1a, the hardest to treat patients on daclatasvir and Olysio + ribavirin (RBV); 90% cure rates in GT 1a people on daclatasvir, asunaprevir and BMS-791325; and 99% in easier to treat GT 1b patients on ABT450/r plus ABT333 + RBV. There was a 100% cure rate on 12 weeks of Sovaldi (SOV) + ledipasvir (LDP), a 95% cure rate on 6 weeks of SOF + LDP + GS 9669, and a 100% cure rate on 6 weeks of SOV + LDP + GS9451 in HCV infected people. The good news is that so far the new DAAs are just as safe and effective in people that are co-infected with HIV and HCV. This is great news for Baltimore where as many as 50 to 75% of people may be co-infected. Beware--HCV is also transmitted through sexual contact. HCV sexual transmission is especially high in men who have sex with men (MSM).