No Benefit From Cyclosporine During Early Infection

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Adding cyclosporine to an antiretroviral (ARV) regimen during the first few weeks or months of HIV infection does not offer additional benefit in terms of virus suppression, CD4 cell increases or reduced immune activation. That’s the verdict, according to a study published March 17 in The Journal of Infectious Diseases.

ARV treatment during acute and early HIV infection offers a number of potential benefits. Not only does it significantly shut down virus reproduction, but it also may help preserve CD4 counts and other parts of the immune system. Although ARV therapy generally reduces viral load and helps protect CD4 cells during the initial throes of HIV disease, it doesn’t maintain the same level of immune function seen in those not infected with the virus.

Immune function is an issue now receiving a great deal of attention. Specifically, over-activation of certain parts of the immune system in response to HIV is thought to cause lasting immune dysfunction and ultimately increase the risk of illnesses such as cardiovascular disease and certain cancers. Effective ARV therapy reduces activation a great deal, but not completely.

Researchers hypothesized that adding an immunosuppressive drug during early infection might help ARV treatment return cell activation levels to normal, potentially reducing virus levels faster and further than ARVs alone, while also better preserving CD4 counts. One earlier study suggested that the immune-suppressing drug cyclosporine could do just that.

To explore cyclosporine’s effects, Martin Markowitz, MD, from the Aaron Diamond AIDS Research Center in New York City, and his colleagues conducted a study involving 41 people who started ARV therapy during the first weeks (acute infection) or months (early infection) of HIV transmission. Twenty-eight people received the cyclosporine for four weeks combined with ARV therapy for 48 weeks, and 13 people received only ARVs.

Markowitz’s group found that adding cyclosporine conferred no additional benefit over ARV therapy alone. While the authors had hoped that adding cyclosporine would suppress virus more than ARVs alone, it did not. In fact, virus levels were actually higher after four weeks of cyclosporine treatment.

Cyclosporine also failed to increase CD4 cell levels or reduce several measures of immune
activation, compared with ARV therapy alone.

“In summary, this randomized clinical trial failed to document any virologic, immunologic or clinical benefit of immunosuppression with cyclosporine as an adjunct to [ARV therapy] in patients identified and treated during acute and early HIV-1 infection,” the authors state. “We therefore conclude that this particular modality is not indicated in the management of acute and early HIV-1 infection.”