

PHACS AMP

Participant Summary

Title: Left Ventricular and Aortic Dilation in Long-term Multiagent Antiretroviral Therapy (ART)-Treated HIV-Infected Children: The NIH Multicenter Pediatric HIV/AIDS Cohort Study (PHACS)

Authors: Steven E. Lipshultz, Paige L. Williams, William T. Shearer, Kenneth Rich, Erin Leister, Rohan Hazra, Jonathan Kaltman, Denise Jacobson, Laurie Dooley, James D. Wilkinson, Gwendolyn Scott, Steven D. Colan, for the PHACS Team.

Study Description: In some past studies, children with HIV have been found to have problems with their heart and the way it works. These studies were mostly done before current HIV treatments were available. No one has really looked at how the heart works for children on current HIV medicines. We studied the hearts of children with HIV using echocardiograms (“echoes”). Echoes are detailed studies of the shape and size of the heart and how well it pumps blood to the rest of the body.

Study Population: We looked at 109 children with HIV infection and 45 children without HIV in AMP. These children were between 7 and 16 years of age. All were born to mothers with HIV. The children with HIV had been on HIV medicines for a long time. 86% had been on HAART for more than 5 years. The average time on HAART was about 8 years. Most of the children were doing very well on HAART. Their median CD4 count was 722 cells/mm³ at the time the echo was done and 70% had low levels of HIV virus in their blood.

Results: When we compared the heart measurements between the children with HIV to the children without HIV, there were differences. These differences suggested that certain parts of the heart were larger in the children with HIV infection, including the size of the aortic valve and the amount of dilation of the left ventricle. We also looked just at the children with HIV and compared those with more HIV symptoms to those with fewer symptoms. We did not find differences in the size and shape of the heart for children with more symptoms of HIV. But as the amount of HIV in the blood increased, the size of the aortic valve got bigger.

Conclusions: Children treated with current HIV medicines have some changes in the size and shape of their heart. These children should be looked at in more detail over time to see whether these changes lead to more serious heart problems.

Support: This study was supported by NICHD with co-funding from NHLBI, NIAID, NIDA, NIMH, and NIDCD.