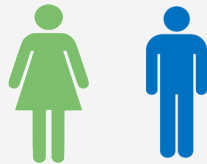


Some youth with HIV have received many HIV drugs during their lives. If these drugs fail to control their disease, they may have few options left to treat their HIV. These youth may benefit from new drugs like CCR5 (R5) blockers that stop HIV from attaching to T-cells. Sometimes, though, the child's virus has mutated into another form of HIV called X4 virus. When this happens, R5 blockers won't help because HIV has found a different way to attach to T-cells in the body. In this study, we looked at the number of youth with X4 virus.

WHO PARTICIPATED

59 youth in AMP



59 youth living with HIV participated. All youth were taking HIV medicines and had high viral loads (at least 1,000 copies/mL) at the time of their last blood sample.

WHAT WE DID

Genotype: predicts how HIV will behave in the body.

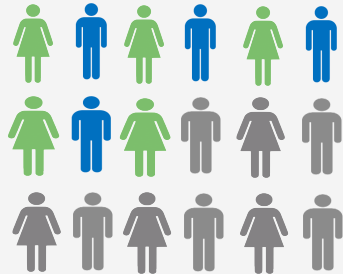


DNA helix

Phenotype: looks at how HIV actually behaves in the body.

Previous studies have used a genotype test for X4 virus. A genotype looks at the genes of HIV itself to predict how it would attach to T-cells in the body. In our study, we used youths' blood samples from 2012 or before to perform a different test called a "phenotype" to test for X4 virus. This test is more accurate because it looks at how HIV actually attaches to T-cells in the body.

WHAT WE FOUND



Just over half (54%) of the youth had some level of X4 virus. Youth were more likely to have X4 virus if they had: high viral loads (>400 copies/mL) for a long time, had failed ARV treatment, or had taken a class of ARV drugs called NRTIs for a short period of time.

WHAT WE LEARNED



Our phenotype test found higher rates of X4 virus in children with HIV than previous genotype studies had predicted. Youth with X4 virus will not benefit from R5 blockers and may need alternative treatments. Our results can help researchers and clinicians identify youth who may be more likely to have X4 virus and improve their HIV treatment.