

Heart Health of Children Exposed to HIV

Often, pregnant women with HIV and their newborns take antiretroviral drugs (ARVs). These drugs can help stop the spread of HIV to the baby.

We wanted to see if there were signs that HIV and ARVs had damaged the hearts of children in SMARTT.

Who we studied

331 children in SMARTT aged 3 to 5

What we did

We tested the children's blood for 3 different chemicals. These chemicals tell us different things about heart health. They measure damage to heart muscle, swelling of the heart, and heart stress.

In 94 of the children, we also looked at a moving picture of the heart beating.

What we found

Each chemical we looked at measures something different.

1. One chemical measures damage to the heart muscle.

- 14% of the children had high levels of this chemical.
- Children had more of this chemical if the mother had used alcohol during pregnancy or had taken a certain ARV called *abacavir* (uh-BACK-uh-veer) during pregnancy.

2. One chemical measures swelling of the heart.

- 25% had high levels of this chemical.
- The hearts of children with more of this chemical were not able to pump blood as well.

3. One chemical measures stress on the heart.

- 23% of the children had high levels of this chemical.
- Children had more of this chemical if the mother had smoked tobacco during pregnancy or had higher viral load during pregnancy.
- Some children with more of this chemical had larger hearts.

Conclusion

Children born to mothers with HIV often have high levels of these three chemicals.

But we found no link between taking most ARVs during pregnancy and having higher levels of these chemicals in the blood. But the ARV called *abacavir* should be studied more.

Pregnant women with HIV should continue to take ARVs to protect their babies' health.

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