

Youth with HIV and Insulin Resistance

Some people with HIV develop a disease called “metabolic syndrome” (met-a-BALL-ick sin-drome). This may be caused by the HIV virus itself or by HIV medications. We want to know if HIV+ youth are at risk for having metabolic syndrome.

What is “metabolic syndrome”?

Our bodies use chemicals called “hormones” to control how different parts of the body work. Insulin is a kind of hormone that breaks down sugar in the blood.

People with metabolic syndrome cannot use insulin the right way. They can’t break down sugar or store fat properly. We call this “insulin resistance” because their bodies are resisting what insulin normally does.

This may cause them to have too much sugar in their blood. They do not have as much good fat under the skin, and they have too much bad fat in the belly and in the blood. This can cause obesity, type 2 (adult onset) diabetes, and other problems.

Who we studied

402 HIV-positive children in AMP

What we did

We measured the amount of blood sugar and insulin in our AMP participants. We divided them into two groups based on how much insulin their bodies made. We looked at whether there were any differences between the two groups in things like weight, number of CD-4 T cells, and others.

What we found

About 15% of children had a kind of insulin resistance with too much insulin in their blood. This is about the same as teens without HIV. The youth with insulin resistance were more likely:

- to weigh more
- to have already started puberty
- to have higher CD4 T-cell levels
- to have taken the HIV medication called “amprenavir”

Things like age, gender, race, or unusual fat levels in the blood did not explain why some children made extra insulin.

Conclusion

There may be a link between having insulin resistance and HIV and its treatment.

We will follow children in AMP over time to see how many develop insulin resistance and metabolic syndrome.

We will also see how these conditions affect their health.

For more info, contact:

Claire Berman, cberman@sdac.harvard.edu
Director, Health Education & Communication

