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Interview - Jon Cohen Kaiser Family Foundation July 25, 2012

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JACKIE JUDD: Jon Cohen of *Science Magazine*, welcome back as always. Today you spent some time looking at some fascinating but early science strangely involving Minnesotans and Ugandans.

JON COHEN: Yes, it was really fascinating because it's a study presented yesterday that linked to another study that I found today. They weren't done by the same people or anything but they have overlap that I think is fascinating. The group yesterday looked at the lymph nodes of people in Uganda and people in Minnesota. The lymph node is where the CD-4 cells live, a lot of them live.

CD-4 cells are the very cells that HIV targets and destroys, so they're the heart of the HIV problem. What they found is in Uganda and people who didn't have any HIV they lymph nodes had junk in there, fibrogen, clogging it up, makes it difficult for the CD4 cells to talk to each other and hear each other.

In Minnesota, when they looked at HIV uninfected people, there was nothing like that, they looked clean, architecture was normal. When they looked at HIV infected people in Minnesota who were on good drugs, they looked like the uninfected people in Uganda. They had the same sort of cluttered architecture.

JACKIE JUDD: Do scientists know yet what to make of that?

JON COHEN: They have an interesting theory and the theory is that in Eastern Africa, people are assaulted with all sorts of pathogens that aren't in North America, malaria, there are helminthic infections, and there are all these bugs that people are constantly having to confront. Their theory is that their immune systems are constantly inflamed and that's what is leading to what looks like an HIV state in people who are treated who have as well know some inflammation still.

JACKIE JUDD: Now tell me us the second one.

JON COHEN: The second study is an enormous study, almost 30,000 people. It's led by a group from the University of California in San Francisco but it involves an international collaboration. What it asks is when people go on to antiretroviral treatment, how much of their CD4 cells rebound? They looked all over the world. Everywhere looks about the same except for one place, Eastern Africa.

It raises a really provocative question, what's going to happen over time in Eastern Africa to people on treatment? Are they going to get the same benefit as people in the rest of the world? Or are they possibly not going to have the immune reconstitution that everyone else enjoys because of the environment they live in?

JACKIE JUDD: Ultimately mixing the two studies, the people in Minnesota who are HIV positive on medications could ultimately be in better health than the people Eastern Africa also who are positive and on medication.

JON COHEN: That's the scary-

JACKIE JUDD: Is that the thinking?

JON COHEN: -proposition. Yes. We don't have enough data yet, not enough time has passed. People in Eastern Africa started on antiretrovirals in 2003, 2004; people in North America started on good drugs in '96, so we've had enough time to say, hey you can live for, we can extrapolate 40, 50, 60 years with good medication. We don't know that yet with Eastern Africa.

JACKIE JUDD: What happens from here, from AIDS 2012 conference, do scientists continue pursuing it? Do they hope that other scientists here pick it up and run with it? What's next?

JON COHEN: Let's say this theory's true. What you want to do is reduce inflammation. Maybe what you need to do is in addition to treating HIV infection, is you need to treat inflammation. That will require new scientific studies and really creative approaches to dealing with a problem that isn't HIV specific.

> JACKIE JUDD: As I said at the top, fascinating. JON COHEN: Thank you, Jackie.

JACKIE JUDD: Thank you Jon Cohen.

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