“AIDS Patient Zero” Transcript

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IRA FLATOW: This is Science Friday. I’m Ira Flatow.

In 1981, the CDC published a report describing a handful of patients who had a rare lung infection and a rare skin cancer. Those patients would turn out to be the first documented cases of AIDS, which actually wasn’t even called AIDS in those days. The disease was officially recognized later that year, and little was known about AIDS at the time.

But there was a patient zero pinpointed, the person who brought the disease into the country. Well, this week researchers reporting in the journal Nature say that patient zero may be a medical myth. Amy Nordrum is here to tell us that story and other selected short subjects in science. She’s an associate editor at the IEEE Spectrum and here with us in our CUNY studio. Welcome back.

AMY NORDRUM: Thanks, Ira.

IRA FLATOW: All right. Let’s talk about what did these researchers discover about the origin of AIDS in the US?

AMY NORDRUM: Well, what they actually did was they went back before that 1981 date when it was first recognized here in the United States. They looked for blood samples that had been collected for a different study on Hepatitis B in the 1970s. They found samples in New York and San Francisco.

Then they analyzed those to see if any of those patients were positive for HIV at that time. That helped them reconstruct the origins of the disease here in the US and formed some hypotheses about when it might have arrived. Through that analysis, they actually sequenced the full genomes of each of the viruses found in the samples, and they found out that it probably arrived in 1970, 1971.

And this really flipped the patient zero story on its head. The genetics of that particular patient’s HIV virus at that time did not at all lead to those later samples. It was much more just a genetically diverse virus at that time, and the patient was just one of many who actually had the virus and contracted it.

IRA FLATOW: So where did the idea that we had to have a patient zero come from?

AMY NORDRUM: Well, there actually is some scientific reasons why you might try to find the very first patient or one of the first patients in an outbreak. It’s scientifically useful in a lot of ways.

In this particular research, they did find a CDC cluster analysis that had been done at that time trying to track patients who had gotten HIV and trace it back through its history on a person-to-person level. That particular patient identified a lot of other people that he was sexual partners with, and that helped to sort of round out his case for potentially playing a role in the spread of the disease. But the CDC was never definitive on it, and then the myth kind of got out of control.

IRA FLATOW: Yeah, I remember that year and covering that story, and it was just chaos in the

medical community about what this was. No one knew anything about it.

AMY NORDRUM: It was a really scary time for all of these patients and also, I think, for those researchers and physicians who were dealing with it for the first time.