HIV/AIDS SENTINEL PROVIDERS' NETWORK NEWSLETTER

Public Health
Seattle & King County
HEALTHY PEOPLE. HEALTHY COMMUNITIES.
City of Seattle King County

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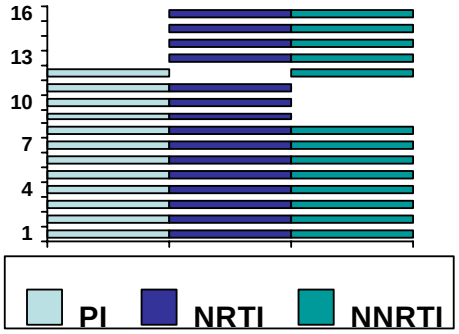
Multi-Drug Resistant (MDR) HIV: A report on the first known 16 cases in Seattle -- including four linked, highly triple-class resistant cases.

You've just run a resistance test in a patient newly diagnosed with HIV. You are expecting wild type virus in this individual who has never used antiretrovirals, or perhaps some NNRTI or NRTI resistance. The results come back that your patient is resistant to nearly all antiretrovirals. For now their CD4 count is high. But what happens after it drops?

Four people recently diagnosed with HIV have been found to have very highly drug resistant virus and very similar viruses with greater than 97 percent homology. Follow-up investigations have confirmed that the specimens were from four different individuals. Genotype results indicate high level resistance to most licensed antiretrovirals and some level of resistance to nearly all licensed antiretrovirals. Each tested as sensitive to one or two nucleoside reverse transcriptase inhibitors (NRTI). Sensitivity testing to Fuzeon has not yet been conducted. All four are men who have had sex with men, three of them had a recent history of methamphetamine use at the time of HIV acquisition, and at least three of them have had sex with multiple, mostly anonymous, male partners. Three of them had evidence of very recent infection at the time of their HIV diagnoses: 12/05, 3/06, and two in 12/06. PCRS (partner counseling and referral services) investigations are ongoing.

Medical providers are urged to be vigilant about HIV and baseline genotype testing. PLEASE alert the health department when multi-drug resistance is diagnosed in a treatment naïve individual. Call the incidence and resistance line at 205-1470.

Public Health – Seattle & King County (PHSKC) has investigated 16 cases of MDR HIV since 2000. These cases were identified in 2000 (n=1), 2003 (n=3), 2004 (n=3), 2005 (n=4), and 2006 (n=5). There was no resistance surveillance in 2001, 2002, and for the first half of 2003. The pattern of resistance breaks down as in the figure below.



PHSKC is conducting primary HIV drug resistance genotype testing surveillance at two large local HIV testing laboratories. These labs account for close to half of all new HIV diagnoses. The participating labs set aside aliquots of sera from positive diagnostic HIV tests for resistance testing. The aliquots are sent to the genotype laboratory pending confirmation that the HIV diagnosis is new and the patient has not yet used antiretroviral therapy. Results are returned to the HIV testing site. When this is not a primary HIV care facility, surveillance records are monitored to find a primary care provider; genotype results are then sent to this provider.

Over the course of conducting local resistance surveillance the proportion of people with high level resistance to one or more antiretroviral drug has remained steadily about 11%. About 3% of individuals had multi-drug resistance (MDR), defined as high level resistance to one or more drug in each of two or more of the three major drug classes: protease inhibitors (PIs), nuclease or nucleotide reverse transcriptase inhibitors (NRTIs), and non-nuclease reverse transcriptase inhibitors (NNRTIs). About 1% are triple class resistant.

Antiretroviral drug resistance surveillance is essential to monitor potential community-wide loss of effective treatments. Community resistance levels are needed to inform treatment decisions and guide prevention efforts, for example for post-exposure prophylaxis or to prevent vertical transmission when a woman in labor is diagnosed with HIV and there isn't time to test for resistance. Primary resistance is a marker for inadequately treated HIV, often due to failure to adhere to antiretrovirals, combined with viral replication, persistence of drug resistant virus, and ongoing behaviors promoting HIV transmission. In sum, morbidity and mortality due to HIV may be reduced with population-based drug resistance surveillance to identify unusual strains of HIV and, when resistance is present, to adjust treatments accordingly and promote prevention activities to limit the spread of resistant virus.

Under consideration is recommending revisions to the Washington administrative code to allow for true population-level surveillance, including:

- Requiring laboratories to report all HIV genotype results or
- Require leftover aliquots of sera to be submitted to a public health laboratory for incidence and resistance testing or
- Require confirmatory HIV testing to be conducted by a public health laboratory

Partner counseling and referral services (PCRS, formerly called "partner notification") is available for all newly diagnosed individuals, and especially prioritized for people with MDR, whether they are treatment naïve or not. For PCRS assistance, please call Michelle Perry at 731-2726. When multi-drug resistance is found, PCRS efforts can be enhanced to (1) find additional people infected with hard-to-treat virus so as to tailor their treatment regimens accordingly and to (2) try to block further spread of this difficult to treat virus.

Primary multi-drug resistant (MDR) HIV: recommendation to test before HAART treatment begins.

HIV treatment guidelines from the U.S. Dept. of Health and Human Services (available at http://aidsinfo.nih.gov/contentfiles/adultandadolescentgl.pdf) recommend conducting drug-resistance testing before starting anti-retroviral treatment for HIV. As is recommended for TB and gonorrhea, identification of drug-resistant HIV prior to treatment allows selection of treatment regimens with a higher probability of success. Resistance testing may be done as part of an HIV screening program or as part of a post-positive-HIV-test comprehensive assessment, including PCRS and medical assessments, such as CD4+ lymphocyte and HIV-1 RNA level (viral load) tests.

Care and Prevention (CAP). The Care and Prevention (CAP) project started conducting patient interviews 01/2007.

CAP is a CDC-sponsored expanded surveillance project. Its aims are to 1) monitor HIV-associated presentation, outcomes, and treatments; including how many people are receiving the recommended care for HIV, including HAART, OI prophylaxis, PPD screening, vaccinations, hepatitis screening, etc; 2) identify barriers to care; 3) examine morbidity still experienced by HIV-infected persons in the HAART era; 4) measure adherence to, acceptance of, and adverse effects of therapy; and 5) examine many facets of HIV prevention including condom use, serosorting, disclosure of HIV status, where sexual partners meet each other (internet, baths, etc.) and numbers of partners met at each location

Providers selected for the 2005/2006 Medical Monitoring Project (MMP) were eligible for CAP. Unlike MMP, with its complex sampling, CAP is employing a convenience sample. We are hoping to enroll 500 patients by June2006, and have already interviewed almost 200 participants. Data will be collected by chart review and interview. Chart review data include HIV-related treatments, diagnoses, and laboratory values. The interview asks patients about their health-care seeking and other behaviors impacting HIV care, such as adherence to HAART. Patients are compensated $20 for their time. The interview can be self-completed or interviewer-administered on a hand-held computer. **Please participate if your medical practice is an MMP site.** For more information, please call Elizabeth Barash at 206-296-2907.

Upcoming Meetings

HIV/AIDS Epidemiology Brown-bags. These meeting occur approximately monthly, Tuesday or Wednesday lunchtimes, usually at the 3rd floor 400 Yesler building. For more information, to be added to the mailing list, or to suggest a speaker or topic, please call Elizabeth Barash at 296-2907.

AIDS Clinical Conferences and Lunch and Learns. Clinical conferences are usually the 3rd Tuesday of each month 8am to 9am at the HMC Research and Training Building. Lunch and learns are usually held on Fridays from 12 noon to 1pm. For more information on the AIDS Clinical conferences, including CME, contact Dennis Torres at 206-731-6972.

EPIDEMIC AT A GLANCE: AIDS CASES

	Cumulative AIDS Cases	AIDS Deaths	Persons living with AIDS
Seattle-King County (actual reports, 12/31/06)			
Washington State (actual reports, 12/31/06)			
United States (estimated, 12/31/05)			

HIV CASES (WITHOUT AIDS)

	Cumulative HIV non-AIDS Cases	HIV non-AIDS Deaths	Persons living with HIV non-AIDS
Seattle-King County (actual reports, 12/31/06)			
Washington State (actual reports, 12/31/06)			
United States (estimated, 12/31/05)			

* limited to 33 areas with confidential name-based HIV reporting, excluding name-to-code areas

TOTAL HIV/AIDS CASES

	Cumulative HIV & AIDS	HIV & AIDS Deaths	Persons living with HIV /AIDS
Seattle-King County (actual reports, 12/31/06)			
Washington State (actual reports, 12/31/06)			
United States (estimated, 12/31/05)			

To report AIDS and HIV disease cases or to order reporting forms and information, call Faythe Crosby at (206) 296-4645

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