CD Summary

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CENTER FOR DISEASE PREVENTION & EPIDEMIOLOGY • OREGON HEALTH DIVISION

SYPHILIS ELIMINATION

REGARDLESS OF WHEN it arrives, the new millennium presents an opportunity to eliminate one of the most devastating sexually transmitted diseases. Lues, as it is also known,* has a history as rich as Croesus. It was first identified as a distinct disease when a devastating epidemic of the "Great Pox" swept Western Europe between 1495 and 1510. The rapid global spread of syphilis between the 15th and 17th centuries was enhanced by the explosion of world-wide travel, commerce and colonization.[1] It was the threat of syphilis (along with tuberculosis) that stimulated development of much of the U.S. public health infrastructure in the early 1900s.

Since 1940, effective antibiotic therapy and coordinated public health measures have markedly reduced the incidence of syphilis in the United States, leading to the demise of the *Journal of Syphilology* and other specialty publications. With an effective public health presence, reliable and accurate diagnostic testing, effective treatment, and an absence of non-human reservoirs, we have the capacity to eliminate syphilis in the foreseeable future.

SURVEILLANCE HIGHLIGHTS

Syphilis tallies are at the lowest levels ever recorded in the United States. Reports have dropped 86% since a local maximum in 1990. What remains is concentrated in a dwindling number of communities, particularly in the states of the old Confederacy (see map). Over 50% of all U.S. cases were reported from only 28 counties.

Syphilis disproportionately affects African-Americans living in poverty. Syphilis rates are 34 times higher among black Americans than rates among non-Hispanic whites.

The overall drop already betters the Healthy People 2000 goals and gives us a window of opportunity to interrupt transmission while case numbers are low. In addition to the personal health consequences of untreated syphilis, elimination of the disease will reduce the transmission of HIV and result in more healthy babies due to fewer syphilis-related spontaneous abortions, stillbirths and congenital infections. Gonorrhea, chlamydiosis, and other STDs could be treated without worrying about coverage of undiagnosed syphilis. The annual cost of syphilis treatment, case finding, and prevention is estimated at nearly $1 billion.

BASICS

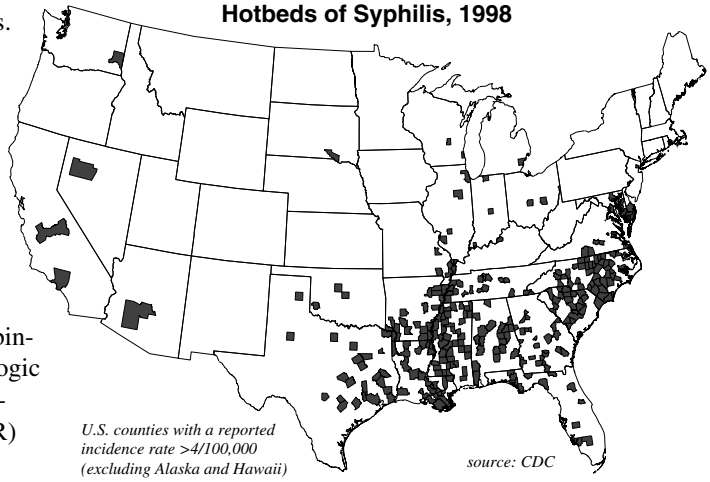
Treponema pallidum, the spirochete that causes syphilis, is transmitted through direct sexual contact or in utero infection (congenital syphilis). Blood-borne transmission has been documented, but is very rare. The organism invades through intact mucous membranes or compromised cutaneous surfaces, multiplies locally, and spreads to adjacent lymph nodes. After 10–20 days, a cell-mediated immune response results in a painless ulcer (chancre) and local adenopathy. Without treatment, spirochetes disseminate hematogenously to many organs, including the central nervous system. Secondary syphilis (rash, mucous membrane lesions) is the initial manifestation of this systemic spread. After 10–30 years, 10-20% of infected persons will develop tertiary disease, with chronic inflammation in the meninges, brain, aorta, bones, joints, and other organs, and a wide spectrum of clinical manifestations. Between these symptomatic periods, the organism is "latent." The many faces of syphilis led to the old adage, "if you know syphilis, you will know medicine."

The diagnosis is usually made by combining two types of serologic (blood) tests: a nontreponemal (VDRL, RPR) screening test, with a more specific treponemal test chaser (FTA-ABS, MHA-Tp.[2] *T. pallidum* is not culturable. Because false-positive VDRL or RPR tests can occur in various physiological states (e.g., pregnancy, chronic infection, auto-immune disease), a treponemal test is necessary to confirm the diagnosis. VDRL or RPR titers correlate with disease activity and treatment outcome (a 4-fold change is significant), whereas the FTA or MHA-Tp is not affected by treatment or disease activity and usually remains positive for life. Neurosyphilis is diagnosed by a combination of positive serology, abnormal CSF cell count or protein, or a reactive VDRL-CSF with or without clinical manifestations.

All HIV-infected patients should be tested for syphilis; syphilis serology appears to be accurate and reliable although somewhat more variable in this population. Routine screening is also appropriate for pregnant women, STD clinic clients, HIV-infected persons, and anyone with multiple partners or other sexual risk behaviors.

Parenteral penicillin G is the preferred drug for treatment of all stages of syphilis, and is the only therapy with documented efficacy for neurosyphilis or for syphilis during pregnancy. Penicillin-allergic patients (especially gravida and those with neurosyphilis) should be desensitized and treated with penicillin when possible. The

Hotbeds of Syphilis, 1998



U.S. counties with a reported incidence rate >4/100,000 (excluding Alaska and Hawaii)

source: CDC

* at least to an increasingly select few

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efficacy of penicillin (>99%) is well established; alternatives (doxycycline, ceftriaxone) have not been studied as extensively. Penicillin resistance has not been documented. The dosage, preparation, and the length of treatment depend on the stage and clinical manifestations of disease.[2] There is no effective vaccine against *T. pallidum* infection.

SYPHILIS IN OREGON

Depending on your grammatical skills, you might be saying to yourself, "Whom are you trying to kid? We won't eliminate syphilis unless we eliminate sex!" In fact, while media reports suggest that sexual contacts still occur in Oregon, case numbers indicate that syphilis has already been "eliminated"—at least according to the CDC's working definition: "the absence of sustained transmission in the United States" and "the absence of transmission of new cases within the jurisdiction except within 90 days of report of an imported index case." In 1998, Oregon recorded only 13 cases of primary and secondary syphilis, a decrease from 23 in 1997. Although reporting is not complete for 1999, only 9 cases have been reported this year with no documented transmission. The last known Oregon case of congenital syphilis was reported in 1997.

DANGER AT EVERY OFFRAMP

Our challenge is to maintain this enviable position. Western Oregon is considered a "potential re-emergence area," due to our penetration by I-5. Recent cases diagnosed in Oregon are being evaluated for any connections to recent mini-epidemics in Seattle and Vancouver, B.C.

The Health Division will continue to work with local health departments and community partners to sustain progress towards the goal of syphilis elimination. Syphilis has been considered a health system "sentinel disease," but the elimination of syphilis transmission in Oregon will not necessarily imply that everything is perfect. Unless and until the etiologic agent itself is completely eradicated, eternal vigilance will be needed to insure that syphilis does not return as a public health menace.

REFERENCES

1. Quetel C. History of Syphilis. Baltimore, Johns Hopkins Press, 1990.
2. CDC. 1998 guidelines for treatment of sexually transmitted diseases. MMWR 1997:47(RR-1):1-118.

There once was a man from Bombay
Who thought chancres just faded away.
But now he has tabes
And bow-legged babies
And thinks he's the Queen of the May.
—anonymous (or at least lost to follow-up)

Expanded HIV Reporting: Draft Rules

On December 3, draft rules for expanded HIV reporting were presented to the Public Health Advisory Board. The Health Division proposes to:

1) expand the current name-based AIDS reporting system to persons with HIV infection, in order to assure referral to care and prevention services,
2) continue the current option for anonymous testing at public counseling and testing sites, and
3) convert the names of reported HIV-infected persons into a unique identifier in order to assure confidentiality of the surveillance data.

The Advisory Board will review the proposed rule changes and will guide the process for informal community input. For more information about the proposed rule changes, to get a copy, or to express your opinion regarding expanded HIV reporting, please call or write:

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