

Syphilis

Overview of Clinical Features and Recent Epidemiology in the United States

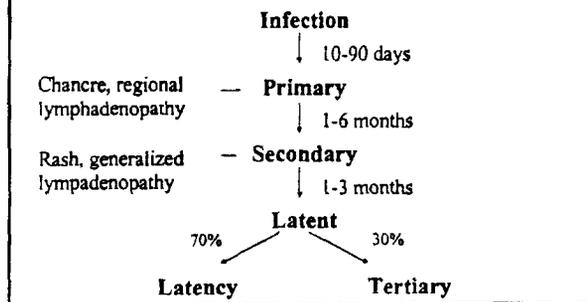
Syphilis

- Sexually transmitted infection caused by the bacterium *Treponema pallidum*
- Characterized by episodes of active clinical disease interrupted by periods of latent infection
- *T. pallidum* is member of the order Spirochaetales

Syphilis - *Treponema pallidum*



Natural History of Syphilis



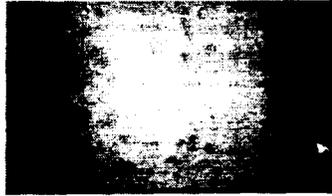
Primary Syphilis

- Classic chancre is single, painless and appears at site of inoculation (genitalia, rectum, tonsils, vagina, cervix)
- Not all chancres have classic appearance; may be missed because they are painless
- Untreated lesions heal spontaneously in a few weeks

Secondary Syphilis

- Persisting/healing chancres
- Rash - macular, papular, pustular or combination
- Lymphadenopathy
- Headache, fever and malaise
- Condyloma lata, mucous patches
- Alopecia
- Some patients do not recall having systemic illness

Secondary syphilis



Syphilis - Secondary

- After primary and secondary stages of syphilis, most patients are asymptomatic and noninfectious
- 25% develop relapses of "secondary disease", demonstrating that waxing and waning is normal part of untreated disease

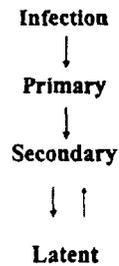
Natural History/Pathogenesis -Syphilis

Treponemes carried to nodes, disseminate to organs and tissues

Chancre is teeming with treponemes

Disseminated stage with treponemes throughout body, condyloma lata teeming with treponemes

Treponemes in spleen and lymph nodes and intermittently seed bloodstream



Syphilis Stages		
<u>Stage</u>	<u>Timing</u>	<u>Manifestations</u>
<i>Primary</i>	10-90 days	Genital ulcer
<i>Secondary</i>	1-6 mos	Rash, fever
<i>Latent</i>		Asymptomatic
-Early	<1yr	
-Late	>1yr	
<i>Tertiary</i>		CV, CNS, Gumma

Congenital Syphilis							
<ul style="list-style-type: none"> • Perinatal death, bone deformities, developmental disabilities, blindness, deafness • Risk of maternal-fetal transmission changes with stage of disease: <table border="0" style="margin-left: 20px;"> <tr> <td>Primary and secondary</td> <td>70-100%</td> </tr> <tr> <td>Early latent</td> <td>40%</td> </tr> <tr> <td>Late latent</td> <td>10%</td> </tr> </table> 		Primary and secondary	70-100%	Early latent	40%	Late latent	10%
Primary and secondary	70-100%						
Early latent	40%						
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Association between HIV and Syphilis: review of 30 studies with HIV data among syphilis patients		
<u>Syphilis Patients</u>	<u>HIV seroprevalence</u>	
	<u>Median</u>	<u>IQR</u>
men	27.5%	(23.1-29.6)
women	12.4%	(8.3-20.5)

Treatment of Syphilis

- 1^o, 2^o, and latent syphilis of < 1 year duration
 - Benzathine penicillin G 2.4 mU IM (single dose)
- Syphilis of >1 year duration
 - Benzathine penicillin G 2.4 mU IM x 3
- Alternatives for penicillin allergy
 - Doxycycline, Tetracycline

Sensitivity of Diagnostic Test, by Stage of Disease

	Stage of Disease		
	1 ^o	2 ^o	Late
Nontreponemal			
RPR	70%	99%	70%
VDRL	80%	99%	70%
Treponemal			
MHA-TP	65%	100%	95%
FTA-Abs	85%	100%	98%

Case Definitions, Early Syphilis

- **Primary**
 - probable* - genital ulcer and reactive serologic test
 - confirmed* - demonstration of *T. pallidum* from chancre by darkfield microscopy or DFA-TP
- **Secondary**
 - probable* - localized or diffuse mucocutaneous lesions, lymphadenopathy with RPR/VDRL ≥ 4
 - confirmed* - demonstration of *T. pallidum* from lesion by darkfield microscopy or DFA-TP

Case Definitions, Early Syphilis

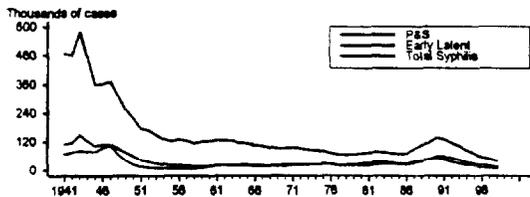
- **Early latent**

subcategory of latent syphilis, no symptoms, infected within the previous 12 mos.

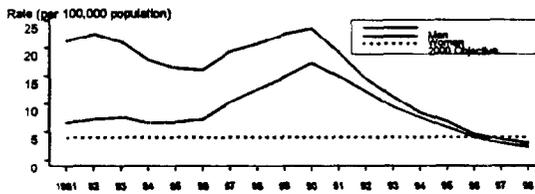
probable (one or more of the following criteria)

- seroconversion or 4-fold titer increase or symptoms in past 12 mos.
- history of sexual exposure to a partner with early syphilis
- reactive VDRL/RPR in a person whose only possible exposure to syphilis occurred within past 12 mos.

Syphilis - Reported cases by stage of illness: United States, 1941-1998



Primary and secondary syphilis - Rates by gender: US, 1981-1998 and the Healthy People year 2000 objective



Syphilis Outbreaks

- Despite decrease in syphilis, outbreaks still occur
- Major outbreaks in 2000
 - Miami - 81 cases
 - Los Angeles - 112 cases
 - Indianapolis - 228 cases
 - Detroit - 163 cases
