

# Syphilis Case Study

## History

- Stan Carter is a 19-year-old male who presents to the STD clinic because he's had a sore on his penis for one week.
- Last sexual exposure was three weeks prior, without a condom.
- No history of recent travel.
- Predominantly female partners (three in the last six months), and occasional male partners (two in the past year).
- Last HIV antibody test (two months prior) was negative. Reports three children with two different women.

## Physical Exam

- No oral, perianal, or extra-genital lesions.
- Genital exam shows an uncircumcised penis with a lesion on the ventral side near the frenulum. Lesion is red, indurated, clean-based, and non-tender.
- Two enlarged tender right inguinal nodes, 1.5 cm x 1 cm.
- Scrotal contents are without masses or tenderness.
- No urethral discharge.
- No rashes on torso, palms, or soles. No alopecia. Neurologic exam within normal limits.

## Questions

**1. Based on Stan's history and physical exam, what are the possible etiologic agents that should be considered in the differential diagnosis?**

- a) Herpes Simplex Virus (HSV)
- b) *Treponema pallidum*
- c) *Haemophilus*
- d) Lymphogranuloma venereum (LGV)
- e) All of the above except *N. gonorrhoeae*
- f) All of the above

**2. What is the *most likely* diagnosis?**

- a) Herpes Simplex Virus (HSV)
- b) Primary syphilis
- c) Chancroid
- d) Lymphogranuloma Venereum (LGV)

**3. Which laboratory tests would be appropriate to order or perform?**

- a) A stat RPR.
- b) Darkfield microscopy
- c) Treponemal serologic test for syphilis (FTA-ABS)
- d) Nontreponemal serologic test for syphilis (e.g., RPR)
- e) HSV tests
- f) HIV
- g) All of the above would be appropriate

## Laboratory

### Stat Lab Results

**The results of stat laboratory tests showed the following:**

- RPR—Nonreactive
- Darkfield examination of penile lesion—Positive for *T. pallidum*

## Questions

### 4. What is the diagnosis?

- a) Unknown at this time because of the nonreactive RPR
- b) Latent syphilis
- c) Primary syphilis

### 5. What is the appropriate treatment?

- a) Benzathine penicillin G 7.2 million units total, administered as 3 doses of 2.4 million units IM each at 1-week intervals
- b) Benzathine penicillin G 2.4 million units IM in a single dose
- c) If penicillin allergic, use vancomycin 250 mg orally 4 times a day for 10 days PLUS rifampin 600 mg orally twice a day
- d) b or c

## Reference Lab Results

**The results from the reference laboratory showed the following:**

- RPR—Nonreactive
- FTA-ABS—Reactive
- HSV culture—Negative
- Gonorrhea NAAT—Negative
- Chlamydia NAAT—Negative
- HIV antibody test—Negative

## Questions

### 6. Do the reference laboratory results change the diagnosis?

- Syphilis is not confirmed because Stan's RPR is nonreactive
- Stan has primary syphilis.
- Stan has herpes.

### 7. Who is responsible for reporting this case to the local health department?

- a) The patient
- b) The patient's sex partner
- c) The laboratory
- d) The health care provider
- e) The health department, through active surveillance
- f) None of the above because syphilis is not a public health priority and therefore it is not reportable
- g) All of the above
- h) Depending on the state, the laboratory and/or the health care provider

## Stan's Sex Partners

### Partner Management

Stan had the following sex partners during the past year:

Tracy—Last sexual exposure three weeks ago (receptive oral and vaginal sex with Stan)

Danielle—Last sexual exposure six weeks ago (vaginal sex with Stan)

Jonathan—Last sexual exposure one month ago (receptive anal sex with Stan)

Tony—Last sexual exposure eight months ago (insertive oral and anal sex with Stan)

Carrie—Last sexual exposure six months ago (receptive oral and vaginal sex with Stan)

## Questions

**8. Which of Stan's partners should be evaluated and treated prophylactically, even if their test results are negative?**

- a) All of them
- b) Tracy, Danielle, and Jonathan
- c) Tracy, Danielle, Jonathan, and Carrie
- d) Tracy and Jonathan
- e) Tracy

## Sex Partner Follow-Up

**9. Stan's partner, Tracy, is found to be infected and is diagnosed with primary syphilis. She is also in her second trimester of pregnancy and is allergic to penicillin. What is the appropriate treatment for Tracy?**

- a) Tracy should be treated with doxycycline 100 mg orally twice a day for 14 days.
- b) Tracy should be desensitized in the hospital and treated with penicillin.
- c) Tracy cannot become reinfected if she receives adequate treatment.

## Follow-Up

**Stan returned to the clinic for a follow-up exam one week later. Results were as follows:**

- His penile lesion was almost completely healed.
- He had not experienced a Jarisch-Herxheimer reaction.
- The RPR (repeated at the follow-up visit because the initial one was negative) was 1:2.

## Questions

**10. What type of follow-up evaluation will Stan need?**

- a) Repeat the HIV antibody test at 3 months
- b) Reexamine clinically and serologically 6 months after therapy
- c) Reexamine clinically and serologically 12 months after therapy
- d) Repeat the HIV antibody test in 1 month
- e) All of the above except d.
- f) All of the above.

**11. What are appropriate prevention counseling messages for patients with syphilis?**

- a) Genital ulcer diseases including syphilis can occur in male or female genital areas that are not covered or protected by a latex condom.

- b) Correct and consistent use of latex condoms can reduce the risk of syphilis when the infected area or site of potential exposure is protected.
- c) Pregnant women should be screened and counseled for syphilis at least at the first prenatal visit.
- d) All of the above are appropriate prevention and counseling messages.