Denouement and Discussion

Acquired Secondary Syphilis

Treponemal and nontreponemal test results confirmed the suspicion of acquired secondary syphilis. On further questioning, the patient disclosed unsafe sexual activity and a history of gonococcal infection 6 months earlier, treated with ceftriaxone and doxycycline. He did not have antibodies to human immunodeficiency virus. He was treated with an intramuscular injection of 2.4 million units of benzathine penicillin. Clinical improvement and a decrease of serologic titers were noted during the follow-up.

CAUSE

Syphilis is a worldwide chronic infectious disease caused by the spirochete *Treponema pallidum*. Although rates of syphilis infection reached a nadir in 2000, an upward trend in incidence has been recently described in different countries.[1,2]

CLINICAL FEATURES

Four stages of syphilis are described.[3] The first stage develops after an incubation period of 21 days as a nontender, indurated, nonpurulent ulcer at the site of inoculation: the chancre. The chancre may go unnoticed, especially when it is located on the cervix, vagina, or anus. Nontender regional adenopathy is a common finding at this stage. This ulcer resolves itself spontaneously and is followed by the secondary stage 6 to 8 weeks later. This stage is characterized by a cutaneous rash, which can be macular, maculopapular, papulosquamous, or pustular, typically affecting palms and soles.[4] Other manifestations include a sore throat, malaise, headache, and lymphadenopathy, and less commonly, fever, myalgias, weight loss, anorexia, mucous patches, condyloma lata, hair loss, arthralgias, and ocular involvement.[4] Neurosyphilis develops in 30% of patients[3]; it can be asymptomatic or present with meningeal, cranial, or spinal nerve involvement. Secondary syphilis resolves without treatment in 1 or 2 months, although recurrences can develop during the first years following infection.[4]

After the secondary stage, the infection enters a latent period, named early latent syphilis (during the first year following infection) or late latent syphilis (during the period thereafter). Left untreated, tertiary syphilis involving the skin, bones, central nervous system, and heart may occur many years later; in childhood and adolescence, it is exceedingly rare.[3]

DIAGNOSIS

Because *T pallidum* cannot be cultured, diagnosis is made based on clinical findings and is confirmed by direct visualization of treponemas or serologic test results.[3] Direct identification of organisms is made by direct fluorescent antibody stains or dark field microscopy of smears from ulcer material or mucocutaneous lesions. Serologic tests include nontreponemal tests (rapid plasma reagin test or Venereal Disease Research Laboratories test), traditionally used as a screening diagnostic tool, and treponemal tests (*T pallidum* particle agglutination assay or fluorescent treponemal antibodies, which confirm the results[4]); treponemal test results usually remain positive for *T pallidum* antibodies for life, whereas nontreponemal test results become negative after treatment, reflecting disease activity.[3]

MANAGEMENT

Parenteral penicillin remains the treatment of choice for syphilis, and resistance has not been described. A clinical and serologic follow-up is mandatory, usually 3, 6, and 12 months after treatment.[5] Treatment failure is defined as persistent signs or symptoms, failure of nontreponemal test titers to reach a 4-fold decline (2 dilutions) within 6 months of treatment, or a sustained 4-fold increase in nontreponemal test titers after treatment.[4] Patients treated for syphilis should be tested for human immunodeficiency virus and other sexually transmitted infections. In addition, it is important to identify all of the patient's sexual partners, who should be evaluated clinically and serologically.

Accepted for Publication: May 9, 2006.
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Financial Disclosure: None reported.

REFERENCES

1. Doherty L, Fenton KA, Jones J, et al. Syphilis: old problem, new strategy. *BMJ.* 2002;325:153-156.
2. Weir E, Fisman D. Syphilis: have we dropped the ball? *CMAJ.* 2002;167:1267-1268.
3. Woods CR. Syphilis in children: congenital and acquired. *Semin Pediatr Infect Dis.* 2005;16:245-257.
4. Golden MR, Marra CM, Holmes KK. Update on syphilis: resurgence of an old problem. *JAMA.* 2003;290:1510-1514.
5. Centers for Disease Control and Prevention. Sexually Transmitted Diseases Treatment Guidelines 2002. http://www.cdc.gov/STD/treatment/2-2002TG.htm#Syphilis. Accessed January 3, 2006.

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