



HIV Medical Alert

for primary health care providers
and health professionals

November 2001
Vol. 5, Issue No. 4

HIV Medical Alert

provides clinicians with comprehensive and up-to-date information about diagnosis, treatment, and prevention of HIV.

HIV Medical Alert

is published by Upper Hudson Primary Care Consortium, Glens Falls, N.Y., as part of the HIV Clinical Education Initiative. The Initiative is funded by the AIDS Institute of The New York State Department of Health (NYSDOH).
© 2001 UHPC

Medical Advisor:

Michael Foltzer, MD

Bassett Healthcare,
Coperstown, N.Y.

Contact

For subscriptions or additional information

Mary Anne Brown, RN,
Administrative Editor, (518/
761-0300)

or

Lyn Stevens, NP
315/464-5593

Webpage

HIV Medical Alert is also
available on-line at
www.upstate.edu/cei



WELCOME to the *HIV Medical Alert* Newsletter Continuing Medical Education (CME) format. This activity has been planned and implemented in accordance with the Essentials and Standards of the Medical Society of the State of New York through the joint sponsorship of Glens Falls Hospital and Upper Hudson Primary Care Consortium. The Glens Falls Hospital is accredited by the Medical Society of the State of New York (MSSNY) to sponsor continuing medical education for physicians. The Glens Falls Hospital designates this continuing medical education activity for a maximum of 1 hour of Category I credit towards the American Medical Association Physician's Recognition Award (AMA-PRA). Each physician should claim only those hours of credit that he/she actually spent in the educational activity.

STD PREVENTION AND TREATMENT

By Shelley A Gilroy, MD

Introduction

Sexually transmitted diseases (STDs) are among the most common infectious diseases in the United States today; two thirds of the estimated yearly 15 million STDs occur in people 25 years of age or younger including 3 million teenagers. Transmission is facilitated by the asymptomatic nature of many of these infections, inconsistent condom use and sex with multiple partners. Aside from the direct morbidity of these infections, STDs contribute to infertility and ectopic pregnancy, cause cervical cancer and facilitate transmission of HIV. Regardless of symptoms, clinicians must screen those patients at risk for STDs. Sexual partners of individuals with an STD must also be screened and / or treated. This newsletter reviews the clinical, diagnostic and therapeutic approach to several common STDs.

Gonorrhea

Neisseria gonorrhoeae can involve the genital, anorectal and pharyngeal sites and infection can be either symptomatic or asymptomatic. Following an incubation period of 1-14 days, symptoms include purulent urethral discharge in males, mucopurulent endocervical discharge in females, proctitis, pharyngitis and urethritis. Complications include urethral strictures in males and pelvic inflammatory disease (PID), and infertility in females. Diagnosis is made by isolation of *N. gonorrhoeae* from sites of exposure (urethra, endocervix, throat, and rectum) by culture using a selective medium or by DNA probe of exudates or application of ligase chain reaction (LCR) to exudates or urine. Gram stained smears from the endocervix of infected women show typical gram negative intracellular diplococci in only 50-70% of cases.

In symptomatic men the urethral gram stain is 90-95% sensitive whereas in asymptomatic men it is only 50-70% sensitive. Patients with documented infection and their partners should be similarly treated—the latter irrespective of symptoms.

Several single dose treatment regimens are available: ceftriaxone 125mg IM, cefixime 400mg po, ciprofloxacin 500mg po, ofloxacin 400mg po and spectinomycin 2gms IM. Because of emerging resistance to fluoroquinolones, if patients or their sex partners are likely to have acquired gonococcal infections in Hawaii, the Pacific Islands, or Asia, they should not be treated with fluoroquinolones; instead, ceftriaxone or cefixime are preferred (1). A quinolone—not spectinomycin—is recommended for pharyngeal infection in a person with a cephalosporin allergy. Spectinomycin is recommended for pregnant females with a history of penicillin or cephalosporin allergy. Because coinfection with chlamydia occurs in 40% of males and 30-50% of females with gonococcal infection, azithromycin 1 gm orally or 7 days of doxycycline 100mg po bid or erythromycin 500mg po qid should also be given in addition to treatment for *Neisseria gonorrhoea*.

Chlamydia

Chlamydia trachomatis is the most prevalent reportable infectious disease in the United States. Of the estimated 3 million yearly cases, as many as 85% of chlamydia infections in women and 40% of infections in men are asymptomatic (3). PID will develop in 20-40% of untreated women. As a result, > 1 million women develop PID in the United States each year with approximately 25% of women with acute PID suffering long term sequelae including ectopic pregnancy, infertility, chronic pelvic pain, and dyspareunia. Other manifestations of chlamydia infection may include dysuria, vaginal discharge, Bartholinitis, endometritis, salpingitis and spontaneous abortion. (3) In males chlamydia may cause urethritis (NGU), proctitis, proctocolitis, epididymitis and prostatitis.

The diagnosis is made by identification of the organism in exudates or urine. Routinely available tests include direct immunofluorescent antibody (DFA) test of exudate, detection of nucleic acid by DNA probe of exudate and amplified techniques including LCR or PCR of exudate or urine. The amplification techniques are highly sensitive and specific and can be applied to urine which makes them attractive for screening applications.

Treatment is single dose azithromycin 1 gm orally; alternatives include 7 days of doxycycline 100mg po bid, erythromycin 500mg po qid, or ofloxacin 300mg po bid. Ciprofloxacin is **not** an acceptable option due to an increased risk of relapse. As with gonorrhea, partners should be treated regardless of symptoms.

Syphilis

Syphilis, a systemic disease caused by *Treponema pallidum*, is divided into several clinical stages which although confusing and somewhat arcane, are still applied to determine both therapy and risk of transmission. Primary, secondary and early latent stages are considered early syphilis and are infectious. In primary infection a chancre or painless ulcer occurs at the inoculation site, most commonly the genitals and anorectal area, accompanied by painless regional adenopathy. Secondary infection (disseminated) manifestations include maculopapular rash on the trunk, palms and soles of the feet, mucocutaneous lesions, aseptic meningitis and generalized lymphadenopathy. If untreated, relapse is possible and generally occurs within the first year. This stage blends with the period of early latent infection which is arbitrarily defined as 4 years following primary infection during which time most individuals are asymptomatic, although the possibility of relapse—especially infectious mucocutaneous lesions exists. Finally late disease is either symptomatic (i.e., aortitis, gummatous, tabes/paretic) or asymptomatic (latent).

A definitive diagnosis of syphilis requires positive darkfield examinations or DFA tests of lesion

exudate or tissue. A presumptive diagnosis is made by an appropriate clinical presentation and positive serologic tests. Generally a screening nontreponemal (VDRL, RPR) followed by a confirmatory treponemal (FTA-ABS, MHA-TP) antibody test are required for the diagnosis of syphilis (4). Serologic tests are frequently negative in primary disease; therefore the diagnosis of a syphilitic chancre is often clinical. The indications for lumbar puncture and treatment of CNS syphilis are beyond the scope of this newsletter.

Treatment of early syphilis consists of benzathine penicillin G 2.4 million units IM in a single dose. Alternative regimens for penicillin allergic patients include doxycycline 100mg po bid or tetracycline 500mg po qid for 14 days. Treatment of late syphilis and syphilis of unknown duration requires benzathine penicillin G 2.4 million units IM administered as three doses at one week intervals. Alternative treatment includes doxycycline or tetracycline for 21 days. Pregnant women who are penicillin allergic should be referred for penicillin desensitization. Sex partners of patients with early syphilis should be treated regardless of symptoms or serologic (RPR) status.

Chancroid

Chancroid, a painful genital ulcer caused by *Haemophilus ducreyi*, is endemic in some areas of the United States. The definitive diagnosis of chancroid is made by culture on special culture media with a reported sensitivity of $\leq 80\%$. A presumptive diagnosis is made from clinical signs and symptoms that include one or more painful genital ulcers with regional lymphadenopathy and no evidence of *T. pallidum* infection by darkfield exam of ulcer exudate and HSV culture is negative. Treatment regimens are azithromycin 1 gm orally in a single dose, ceftriaxone 250 mg IM in a single dose, ciprofloxacin 500mg orally twice a day for 3 days or erythromycin base 500mg orally four times a day for 7 days.

Trichomoniasis

Trichomoniasis is caused by the protozoan *T. vaginalis*. An estimated 5-10 million Americans and more than 170 million people worldwide are infected annually. Although most infected men are asymptomatic, a minority may have NGU. Women are usually symptomatic complaining of copious malodorous yellow-green discharge with vulvar irritation. Vaginal trichomoniasis has been reported to be associated with adverse pregnancy outcomes, such as premature rupture of the membranes and preterm delivery, infertility, cervical cancer and increase in the transmission of HIV. Diagnosis is made by visualization of motile trichomonads on saline prep of vaginal discharge (50-80% sensitive) or by culture (85-98% sensitive).

Treatment is with metronidazole 2gms orally in a single dose or 500mg orally twice daily for 7 days. Metronidazole gel is considerably less efficacious than oral preparations and is not recommended. Treatment of patients and their partners results in relief of symptoms, microbiologic cure and reduction of transmission. If treatment failure occurs, re-treatment (both patient and partners) with oral metronidazole is recommended. If failure occurs repeatedly the patient should be treated with a single 2gm dose orally once a day for 3-5 days. Because metronidazole-resistant strains of *T. vaginalis* have been reported, patients with culture-documented infection who have not been re-infected and do not respond to the above regimens should be managed in consultation with an expert (8).

Summary

The best way to prevent STDs is to abstain from sexual intercourse or to have sex with a single partner in a mutually monogamous relationship. Sexually active people who have multiple partners should use condoms which, when used consistently and correctly, can reduce the risk of genital herpes, syphilis, chancroid and HPV infection including HPV-associated diseases such as

cervical cancer (3). Despite advances in the testing technologies for STDs and the introduction of newer antimicrobial agents, the treatment of STDs is a clinical challenge for healthcare providers; a high index of suspicion, screening of populations at risk and assurance of treatment compliance for infected individuals and their partners remain the cornerstone for effective management.

References

1. CDC. Fluoroquinolone resistance in *Neisseria Gonorrhoeae*, Hawaii 1999, and decreased susceptibility to azithromycin in *N. gonorrhoeae*, Missouri, 1999. JAMA 2000; 284: 1917-19.
2. CDC. 1998 Guidelines for Treatment of Sexually Transmitted Diseases. MMWR 1997, Vol 47. No RR-1.
3. CDC. National Center for HIV, STD and TB Prevention. Office of Communications

Author

Shelley A. Gilroy, MD, FACP, Clinical Associate Professor of Medicine, Associate Medical Director, STD Control Program at the Bureau of Disease Control at Onondaga County Health Department, Upstate Medical University Hospital, Department of Medicine, Division of Infectious Diseases, 750 East Adams Street, Syracuse, New York 13210, (315) 464-5533, Fax (315) 470-2716, email: gilroys@upstate.edu.

Continuing Education Test

HIV Medical Alert October 2001 Vol. 5 Issue No. 4: STD Prevention and Treatment

To earn credit:

1. Read the CME article.
2. Review the objectives
3. Study and apply the content to the objectives and to your practice.
4. Complete the Post-Test and Evaluation.
5. **Return the answer sheet to: Catherine D. Cushing, RN, BSN, Coordinator, HIV Clinical Education, Upper Hudson Primary Care Consortium, One Broad Street Plaza, P.O. Box 3253, Glens Falls, N.Y. 12801, (518) 761-0300 Fax (518)745-1378.**

Objectives

At the conclusion of this activity, the learner will be able to:

1. Apply screening principles and prevention strategies to patients who are sexually active.
2. Describe the clinical and diagnostic approach to several common STDs.
3. Discuss antimicrobial therapy currently recommended for effective STD management.

Continuing Education Post-test Note: This CME activity and quiz is designated for 1 credit.

Select the best answer(s) for each of the following:

1. **The most common reportable infectious disease in the United States is:**
 - a. Gonorrhea
 - b. Syphilis
 - c. HIV
 - d. Chlamydia
2. **A 23-year-old male presents with fever, an enlarged, hardened, painful testicle and acute urethritis. Which of the following steps would you include during his work-up (more than one answer may apply)?**
 - a. Complete a sexual history.
 - b. Culture sites of exposure, exudates and urine.
 - c. Conduct HIV counseling and screening.
 - d. Discuss prevention strategies.
 - e. Screen and/or treat sexual partners.
3. **Which of the following statements are true? (more than one answer may apply)**
 - a. Transmission of STDs is more efficient when symptoms are absent, condom use is inconsistent and individuals have sex with multiple partners.
 - b. Older adults need not be screened for STDs.
 - c. Complications of STDs include cervical cancer.
 - d. STDs facilitate the transmission of HIV.
4. **Drug therapies which are effective in the treatment of Chlamydia include (more than one answer may apply):**
 - a. single dose Benzathine Penicillin G 2.4 million units IM
 - b. single dose Azithromycin 1 gm p.o.
 - c. Ciprofloxacin 250 mg. p.o. q.12 h.
 - d. 7 days of Doxycycline 100 mg. p.o. b.i.d.
5. **An important consideration in prescribing therapy is the emerging drug resistance in patients who have acquired gonococcal infections in Hawaii, the Pacific Islands or Asia. Appropriate drug therapy is these cases would be: (more than one answer may apply)**
 - a. Ofloxacin
 - b. Ceftriaxone
 - c. Cefixime
 - d. Doxycycline

**Evaluation of CME Activity HIV Medical Alert Vol. 5, No. 4
STD Prevention and Treatment**

	Excellent	Good	Fair	Need s Improvement
Overall Activity				
1. Was the subject matter well balanced in fact & theory?	1	2	3	4
2. Was the format clear and easy to read?	1	2	3	4
3. Did subject matter have sufficient detail?	1	2	3	4
4. Was subject matter valuable for practical application?	1	2	3	4
5. Were objectives met?	1	2	3	4
6. Was the writer clear in content, sequence and style?	1	2	3	4
7. Overall program was? _____ _____ _____				

Comments/Topic Suggestions:

PLEASE PRINT CLEARLY TO ASSURE ACCURATE DOCUMENTATION OF CME CREDIT

Profession: Physician PA NP CNM RN LPN Other _____

Name: _____ **County:** _____

Address: _____
Street City/Town State/Zip

Signature: _____
 Signature (please sign legibly for CME records)