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Infectious Diseases in Corrections

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IDCR, a forum for correctional problem solving, targets correctional physicians, nurses, administrators, outreach workers, and case managers. Published monthly and distributed by email and fax, IDCR provides up-to-the moment information on HIV/AIDS, hepatitis, and other infectious diseases, as well as efficient ways to administer treatment in the correctional environment. Continuing Medical Education credits are provided by the Brown University Office of Continuing Medical Education. IDCR is distributed to all members of the Society of Correctional Physicians (SCP) within the SCP publication, CorrDocs (www.corrdocs.org).

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MANAGING STIS IN JAILS

By Karl Brown, MD, Rikers Island Jail*

***DISCLOSURES: *Consult:** Bristol-Myers Squibb, Gilead, GSK and Abbott Laboratories, **Speaker's Bureau:** Glaxo-Smith Kline*

Most epidemiological studies evaluating the prevalence of infectious diseases in correctional facilities have neglected the prevalence in jails. While rapid turnover of inmates within jails makes it difficult to measure and quantify sexually transmitted infection (STI) prevalence, an assessment conducted by the Centers for Disease Control and Prevention (CDC) in 1997 found that only 12-47% of jails offered routine testing for syphilis, gonorrhea, or chlamydia, and most offered testing only to symptomatic individuals or those who requested testing.[1] In those jails using symptomatic screening for STIs, less than 8% and 3% of women and men, respectively, were tested. This study also documented a common feature of jail testing schema: approximately 50% of arrestees were released within 48 hours after intake, yet most facilities received the inmates' STI test results more than 48 hours after admission.[2]

The focus of medical care within jails tends to be on urgent and/or acute medical conditions, such as mental illnesses, drug withdrawal, trauma and tuberculosis, rather than on STIs (see table 1). If more focus was made on appropriate diagnosis and treatment of STIs in jails, their transmission among inmates in prisons should decrease since jails are often the initial point of entry into a correctional facility. Some have made a strong argument for collaboration between jails, prisons, and health departments to diagnose, track, and report STI trends in corrections.[3] This has largely been limited by a lack of resources.

This article will focus on the epidemiology, diagnosis and treatment of the most common STIs found within jails: syphilis, gonorrhea, chlamydia, and herpes simplex virus (HSV). The relationship between HSV and the acquisition and transmission of HIV, and the prevalence and prevention of hepatitis A and B will also be addressed.

EPIDEMIOLOGY

Syphilis

After an all-time low in 2000, the prevalence of syphilis in the general US population increased for the third consecutive year in 2003.[4] Between 2002 and 2003, primary and secondary syphilis increased by 4.2%, from 2.4 cases[5] to 2.5 cases per 100,000. In 2003, the median percentage of reactive syphilis tests for adult women and men entering correctional facilities was 7.5% and 2.3%, respectively (see table 2.) While more than 60% of all primary and secondary syphilis cases occur among men who have sex with men (MSM), a more recent analysis[6] suggests that waning immunity within communities may also contribute to easier acquisition of disease.

There is significant geographical variation in the prevalence of syphilis, with the highest rates reported in southern states and in corrections. In 1990, an outbreak of syphilis in New York City (NYC) led to intake syphilis screening and control initiatives in NYC jails. In one NYC jail, syphilis was identified in 3.3% of incoming inmates who were screened.[7]

Gonorrhea and Chlamydia

The prevalence of gonorrhea in the general US population increased until 2003 when rates decreased 4.8% from 122 cases per 100,000 in 2002 to 116.2 cases per 100,000 in 2003.[8] In 2003, the median gonorrhea positivity for both adult women and men entering corrections was 1.8%.

The prevalence of chlamydia in the general population increased 5.1% from 289.4 cases per 100,000 in 2002 to 304.3 cases per 100,000 in 2003. In 2003, the median chlamydia positivity for adult women and men entering corrections was 6.3% and 6.4%, respectively. Most male facilities reporting chlamydia infection were juvenile facilities; rates ranged from 1.3 per 100,000 in a Colorado juvenile facility to 16 per 100,000 in a Pennsylvania adult facility. Reported rates of chlamydia among female facilities range from 1.3 per 100,000 in a Montana facility to 33.5 per 100,000 in an Oklahoma facility, and these esti-

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mates are likely under-representative.[9] Generally, the rate of diagnosed gonorrhea is half the rate of diagnosed chlamydia, and many authorities believe that both of these STIs are under-reported.

The rate of asymptomatic chlamydia and gonorrhea among men is unknown.[10] Because most correctional facilities do not perform intake screening for gonorrhea or chlamydia, the prevalence of asymptomatic disease is difficult to estimate.[11] Unpublished data from a recent study on male inmates in the NYC jail system revealed a relatively high rate of asymptomatic chlamydial infection, especially in males 35 years and older. This finding led to the current universal screening for chlamydia and gonorrhea in all males older than 35 years in NYC jails. Additionally, NYC jails test all males for chlamydia and gonorrhea, regardless of age, when they present with signs/symptoms of urethritis. Universal STD screening for females also occurs in NYC jails.

HSV

Genital HSV is notoriously under-diagnosed, both in the general population and in corrections. Infection is life-long with rare to frequent recurrences of symptomatic and asymptomatic genital shedding of two serotypes of virus; most commonly HSV-2, and sometimes, HSV-1. There is scant data on HSV prevalence rates, but nationwide, it is estimated that 50 million individuals (one of every five Americans) have genital HSV infection.[12]

In addition to the discomfort of repeated outbreaks and the risk of transmission, there is also concern that, like other ulcerative STDs, HSV may play a role in the transmission and acquisition of HIV. In a study by Schacker et al, HIV was isolated from HSV-genital ulcers[13] and an increased risk of HIV acquisition was estimated at 2 to 4 times greater when HSV was present.[14] The results of a preliminary study in Africa suggested that suppressive therapy with acyclovir for patients infected with HSV-2 could be effective in decreasing the risk of HIV acquisition.[15]

Hepatitis A and B

The prevalence of acute Hepatitis B virus (HBV) infections has decreased by more than 60% in the general US population, from a rate of 8.5 per 100,000 in 1990 to 2.8 per 100,000 in 2002. High rates of disease continue among men 25-39 years and in women 40 years and older. Notably, persons belonging to these age groups represent a large core population of incarcerated individuals.

While there have been several outbreaks of HBV in correctional facilities,[16] there have not been any reported outbreaks of hepatitis A virus (HAV) in corrections.

Table 1: Differences Between Jails and Prisons

	Jails	Prisons	Jails and Prisons
Length of stay	Unknown, Brief: 24 hours to <one year	Known Usually > one year	
Turnover	Rapid	Less rapid	
Population size	Usually small	Usually large	
Communication with local DOH*	Moderate to extensive	Low to moderate	
Environment	Unstable	Stable	
Screening priorities	Trauma, drug withdrawal, suicide risk, STIs	Chronic illness (e.g. hypertension, diabetes, lung disease)	Tuberculosis
Age	Younger	Older	
Staffing	Less stable	More stable	

Excerpted from Intake and Evaluation in Prisons and Jails, Clinical Practice in Correctional Medicine, Michael Puisis, D.O. Mosby Incorporated 1998
**Ninth National Survey of HIV/AIDS, Sexually Transmitted Diseases, and Tuberculosis in Correctional Facilities*

Table 2: Syphilis infection rates in selected states 2003, /100,000 pop.

State	General Population	Men Corrections	Women Corrections
Pennsylvania	1.3	16.0	7.7
Texas	3.0	5.5 (juveniles)	5.5
Georgia	6.8	6.8 (juveniles)	7.0
Alabama	2.5	-	12.4
New York	3.0	6.4	12.7
California	3.7	5.6	6.2

Adapted from the CDC. 2003 Sexually Transmitted Disease Surveillance Report. 2005.

Diagnosis of STIs

The diagnosis of STIs within corrections requires a high index of suspicion, a thorough, non-judgmental sexual history, and a careful genital examination. All inmates should be screened for STIs, particularly when they first enter the system, and screening should be based on prevalence as measured by the population served (see table 4).

Syphilis

The absence of signs and symptoms of syphilis in infected individuals often makes diagnosis difficult. When a chancre or generalized rash is present in the clinical setting, laboratory testing should be used for confirmatory purposes. Syphilis is most often diagnosed by serologic testing using the non-treponemal Rapid Plasma Reagin (RPR) or the Venereal Disease Research Laboratory (VDRL) test. Treponemal tests include the Fluorescent Treponemal Antibody Absorbed [FTA-ABS] and T. pallidum Particle Agglutination [TP-PA]) and are used to confirm non-treponemal test results. The result of one serologic test result in an asymptomatic inmate without laboratory confirmation (i.e. treponemal test) is insufficient for diagnosis because false-positive non-treponemal results may be secondary to other medical conditions.

In high prevalence settings, in cases where signs/symptoms of syphilis exist, and where the history of successful treatment is absent or unreliable, a Rapid RPR test can be used to justify empiric treatment while awaiting confirmatory treponemal test results. Rapid RPR tests are particularly useful in jail settings where patients may not be available when confirmatory treponemal test results return, typically 48 hours later.

The results of non-treponemal tests correlate with disease activity and usually revert to negative following successful treatment, though they may remain positive at low titer in some individuals. This condition is referred to as "serofast."

Treponemal antibody tests usually remain positive for years, and sometimes for the lifetime of the patient, regardless of treatment or disease activity. Fifteen to 25% of people may revert to negative two to three years after successful treatment.

Gonorrhea and Chlamydia

Men with gonorrhea tend to present with symptoms of pain, dysuria, tenesmus, and penile and/or anal discharge, dependent upon the mode of acquisition. Chlamydia

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infection may present with scant urethral discharge or symptoms. In contrast to men, women infected with gonorrhea and chlamydia are often asymptomatic and therefore go undetected and untreated for longer periods of time. Left untreated, infection can lead to pelvic inflammatory disease, tubo-ovarian pregnancy, and sterility.

The most dramatic change in the diagnosis of STIs has occurred in the laboratory diagnoses of gonorrhea and chlamydia. Previously, invasive swabs inserted for samples were required for culture or microscopic examination. Now, nucleic amplification testing of fluid samples, including urine, sensitively diagnoses both gonorrhea and chlamydia. Medical providers should note that when the nucleic amplification test is repeated soon after treatment completion, the repeat test result may be positive. Consequently, it will be unclear if the person has been newly infected or has a residual positive test.

HSV

The clinical diagnosis of genital herpes is fairly straightforward when the patient presents with pain, vesicles, pustules, or genital ulcers. These symptoms, in conjunction with a slight fever and inguinal adenopathy, are not uncommon in primary genital HSV. Recurrences tend to be less symptomatic, but itching, burning, and tingling at the site of infection or proximal sites may help clarify the diagnosis. Viral cultures taken with a swab from the base of an open ulcerative lesion can identify which type of HSV the patient is infected with, regardless of the presence of symptoms. This has prognostic significance, as genital HSV-2 disease recurs more frequently than genital HSV-1.

For asymptomatic or vaguely symptomatic persons, which represents the majority of HSV infections, diagnosis can be made with type-specific serology. Western blot is the gold standard, but other assays are now available and more cost effective. Serology is also helpful in determining primary HSV from recurrent disease. Individuals who are HSV-2 seropositive and are otherwise unaware of their infection may be regularly or intermittently shedding virus from the genital region and therefore infecting sex partners. Giving an inmate this information provides the opportunity to also educate about risk of HIV acquisition (given the known increased risk in the presence of HSV-2), particularly in the MSM population.

Prevention

Promoting safe sex education, abstinence and safe sexual practices, including the use of condoms, before, during, and after incarceration is extremely important. Early screening, diagnosis, and treatment are also prudent to prevent transmission within, and outside of, corrections.

Table 3: Hepatitis A and B vaccination in corrections

	Hepatitis A	Hepatitis B
Prevaccination screening	Yes, Age> 40 yearsYes, in highly endemic communities (AL, AZ, CA, ID, NV, NM, OK, OR, SD, UT, WA)	Yes, when prevalence within facility is >25%-30%
Routine Hepatitis serological testing	Yes, when used to identify susceptible candidates for vaccination	Yes, when used to identify susceptible candidates for vaccination
Schedule	0 and 6-12 months (second dose can be given at any point following six months if series in interrupted)	0, 1, and > 6 months 0, 1-2, and 4 months (if incarcerated < 6 months)
Candidates for vaccination	Individuals at-risk, e.g. MSM, drug abusers, persons with chronic liver disease or likely to have significant morbidity if infected	All susceptible incarcerated individuals
Post-exposure to known infectious contact (acute hepatitis A or hepatitis B surface antigen)	IG 0.02 mg/Kg IMInitiation of HAV vaccine series is debated	Initiate HBV vaccine series in known-susceptible person **plus** HBIG 0.06 ml/Kg IM

The prevention of HBV and HAV offers added avenues of prevention, including education regarding risk of intravenous and other forms of drug abuse, tattooing risk, and the utility of pre- and post-exposure vaccination. Pre-exposure vaccination is now recommended during incarceration, regardless of incarceration length.[17] Correctional facilities should develop methods to determine completion of vaccine series or appropriate referral upon discharge. There are several approaches to vaccination, as outlined in Table 3.

Treatment

Successful STI treatment depends upon accurate diagnosis, correct antibiotic or antiviral prescription, and proper treatment duration. Multiple guidelines are available, including the Sexually Transmitted Diseases Treatment Guidelines published and regularly updated by the CDC.[12] (see 'STI 101' in this issue for treatment chart)

Antimicrobial resistance is an important concern in the treatment of gonorrhea. In April 2004 the CDC changed its' recommendations regarding the use of Fluoroquinolones for the treatment of gonorrhea. Fluoroquinolones are no longer recommended for the treatment of gonorrhea in MSM, or for the treatment of any case of gonorrhea in California, Hawaii, and Washington. These recommendations are based on the following: (1) strains of N. gonorrhea with decreased susceptibility to Azithromycin were identified in Missouri in 1999; (2) strains of N. gonorrhea with decreased susceptibility to Fluroquinolones were identified in Hawaii and California in 2001;[18] (3) an increase in the rate of Fluroquinolone resistance from 2.2% to 4.4% was identified in the United States in 2003.

Education to prevent transmission and acquisition of STIs should be included with any treatment recommendation. The CDC's Prevention Advisory Committee has recommended integration of STI and HIV education programs, but the continuing increase in STIs among MSM may signal a failure of this integration.[19]

Conclusion

This article focused on three of many bacterial STIs and three sexually transmissible viral infections. These diseases are highly prevalent within correctional facilities and have experienced a resurgence in recent years. While acquisition of healthcare is typically not a priority for inmates, especially upon entry into jails, medical personnel, social workers, and correctional officers can, and should, encourage at-risk individuals to seek necessary treatment for STIs, and promote education, surveillance, and appropriate STI screening. This is a difficult task in an era of diminishing resources and limited time, but is very important in that STIs, even when asymptomatic, can have devastating effects on an individual, and on the communities in which we all live.

For helpful up-to-date information on the management of STDs, visit http://depts.washington.edu/nnptc/online_training/std_handbook/index.html which includes an image gallery, CDC guidelines, and more…

Opportunities for STD clinical training may be found at http://depts.washington.edu/nnptc/core_training/clinical/index.html

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Table 4: Methods to improve diagnosis and treatment

Method	Advantage	Disadvantage
Routinely test for common STIs prevalent within community at-large. Use of rapid RPR, urine ligase for GC and Chlamydia	1. Will likely increase numbers of arrestees diagnosed with STIs. 2. Urine ligase testing will likely increase acceptance of testing and accuracy of results. 3. Earlier diagnoses will likely lead to increased treatment success, decreased transmission within corrections and likely decrease rates within the surrounding community. 4. Increased surveillance capability for local departments of health (DOH).	1. Increased laboratory and pharmaceutical costs on jail budgets. 2. Increased diagnosis may not lead to equally increased treatment due to rapid jail turnover. 3. May depend upon awareness of STI prevalence in outside communities.
Targeted screening of at-risk individuals by community-determined high-risk behaviors or local DOH criteria	1. More cost effective than routine screening. 2. Targets high-risk groups. 3. Increases surveillance capability of local DOH.	1. Dependent upon accurate risk assessment. 2. Dependent upon reliable patient-derived information. 3. Likely to require repeat re-assessments of community-derived risks. 4. Likely to increase diagnoses, but may not equally increase rates of treatment.
Use of surrogate markers for evidence of STIs (e.g. urine dipstick looking for nitrate or leukocyte esterase positive results).	1. Relatively inexpensive with immediate results allowing immediate presumptive treatment. 2. Useful in high prevalence areas with rapid turnovers of arrestees who may not be available for follow-up evaluation. 3. Often testing is already in use for diagnosis of other chronic conditions.	1. Due to poor sample quality, may lead to over-treatment, as well as treatment of multiple STIs as co-morbid conditions. 2. Subject to interpretation. Requires quality standard and training. 3. Offers a range of diagnoses; not a single diagnosis. 4. Lack of accurate diagnosis hinders DOH surveillance.
Collaborations with local DOH	1. Useful to enhance continuity of care into and out of corrections, for contact tracing, and for partner notification. 2. Cost savings when previous treatment completion can be confirmed. 3. Field-delivered therapy can increase completion of treatment and help contain community spread of disease. 4. Useful for training corrections healthcare workers in recognition and treatment of STIs.	1. Delays in data entry may alter certainty of treatment completion. This may lead to over or under-treatment due to unreliable nature of results. 2. Use of aliases may make documentation difficult. 3. Local DOH may have different priorities than correctional facilities.

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19. MSM Epidemics Reveal Need for HIV/STD Integration, STD Advisor Vol. 5 No. 1

Letter from the Editor

Dear Correctional Colleagues:

In the February 17, 2005 issue of the NEJM, Golden et al reports on the "Effect of expedited treatment of sex partners on recurrent or persistent gonorrhea or chlamydial infection". In this unique study, women and heterosexual men with gonorrhea or chlamydia were randomly assigned to have their sex partners receive expedited treatment (patients were offered medication to give to their sex partners), or standard referral (patients were advised to refer their sex partners for treatment and were offered assistance notifying their partners).

The authors successfully showed that expedited treatment was more effective than standard referral of partners in reducing persistent or recurrent gonorrhea and chlamydial infection. Also, patients assigned to expedited treatment were significantly more likely to report all of their sex partners were treated and significantly less likely to report having sex with an untreated partner. Medication partner packets were distributed to patients or their partners through pharmacies, the STI clinic in Seattle-King County, or direct mailing. Packets contained either a combination of a single 400-mg dose of cefixime and 1-g sachet of azithromycin (for gonorrhea) or azithromycin alone (for chlamydia) as well as condoms, information about the medications and STIs, including a warning about adverse effects, and instructions to phone staff with questions or concerns.

As many of you know, the success of standard referral of sex partners in the correctional setting is poor, at best, largely due to mistrust of the system, fear of reprimand or infractions and the like, and fear of breach of confidentiality with subsequent mistreatment by counselors, medical staff, officers, etc… This study provides a potential strategy to deal with this issue so that transmission of STIs is reduced and recurrence of disease is minimized, though there may be some legal barriers to overcome. Innovative solutions, like these, are needed to effectively reduce the burden of STIs in the correctional setting.

This month, Karl Brown, MD presents an overview of common STIs in jails for our readers and Steven Scheibel, MD presents a case study of LGV in an inmate infected with HIV. At the conclusion of this issue, readers should be more familiar with the epidemiology, diagnosis, and treatment of STIs.

Respectfully,

Beth Weaver, DO

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In accordance with the Accreditation Council for Continuing Medical Education Standards for Commercial Support, the faculty for this activity have been asked to complete Conflict of Interest Disclosure forms. Disclosures are listed at the end of articles. All of the individual medications discussed in this newsletter are approved for treatment of HIV and hepatitis unless otherwise indicated. For the treatment of HIV and hepatitis infection, many physicians opt to use combination antiretroviral therapy which is not addressed by the FDA.

ASK THE EXPERT: Lymphogranuloma venereum (LGV) in an Inmate with HIV

By Steven Scheibel, MD, Regional Medical Director, Prison Health Services*

Disclosures: **Speaker's Bureau: GlaxoSmithKline, Bristol Myers Squibb, Boehringer Ingelheim, and Gilead Sciences*

CASE: *A 34 year old, HIV-infected Puerto Rican male inmate presents at intake with a complaint of a swollen right inguinal lymph node. He states that 2 months ago he noticed a swelling in the right groin which gradually increased in size from that of a pea to a tender, mobile mass the size of an almond. He denies fever, chills, night sweats or other constitutional symptoms. Further, he denies dysuria, penile/rectal ulceration or discharge.*

He has 18 months remaining in his sentence. He has sex only with men and has a history of urethral gonorrhea times two and rectal warts. In 2003 he developed a mononucleosis syndrome with generalized lymphadenopathy, fevers and malaise, which was later diagnosed as HIV. On the outside, he was sexually active, with approximately 50 sex partners, many of whom were anonymous, during the previous 2 months. He only practices insertive anal intercourse and uses condoms most of the time. He was regularly using crystal methamphetamines and occasionally used marijuana. He is ARV-naive with a CD4 count of 350 cells/mL and a viral load varying between 30,000-40,000 cells/mL. He has had no history of opportunistic infections. He reports an allergy to penicillin, which manifested as a rash.

Physical exam is significant for normal vital signs, clear oral cavity, normal cardiovascular and chest exam. Examination of the rectum and penis/scrotum/testicles are normal without evidence of discharge, lesions or ulcerations. Skin exam shows no rashes or lesions. Lymph node exam is significant for a 2.5 cm X 1.0 cm tender mobile mass in the right ingiunal area. There is no overlying erythema or drainage. The remainder of the lymph node exam shows multiple 1-2 cm diameter lymph nodes, which are mobile, non-tender and distributed among the axillary, anterior and posterior cervical and inguinal regions.

Q: *What are the differential diagnoses for unilateral tender inguinal lymph node enlargement in a sexually active HIV-infected male from Puerto Rico?*

A: The differential diagnoses include HIV with generalized lymphadenopathy, lymphoma, tuberculosis, chronic fungal infections, kaposi's sarcoma, cat-scratch disease (bacillary angiomatosis) and a reaction to a local viral/bacterial infection (e.g. HSV, chancroid, syphilis, lymphogranuloma venereum [LGV] or Staphylococcus aureus).

Q: *What tests would you order on the initial evaluation?*

A: The Rapid Plasma Reagin (RPR) test was negative and cultures of the throat and rectum were negative for gonococcus and chlamydia. DNA amplification test was positive for Chlamydia trachomatis and negative for Neisseria gonorrhoeae from a urine sample.

Although not conclusive of LGV, the clinical presentation in this patient is suggestive of an inguinal bubo with the initial site of infection being the penis or urethra.

Q: *What measures, if any, should be taken to evaluate and treat all sexual contacts over the last 2 months?*

A: This sexually transmitted infection (STI) is reportable, and therefore, the public health department should be contacted. Depending on the particular county/state and available resources, ideally an officer from the health department would visit the prison and interview the inmate as well as all potential sexual contacts. All exposed contacts within the preceeding 2 months would not only need to be cultured for chlamydia but also screened for HIV and other STIs, such as syphilis. Because this inmate was diagnosed at intake, all sexual contacts were likely those in the community from which he came. However, any potential inmate contacts who may have been exposed to this inmate (the index case) since he has been in custody should still be explored.

Discussion

LGV is an STI caused by serovars of Chlamydia trachomatis and is endemic to parts of Africa, India, Southeast Asia, South America and the Caribbean. The disease process has several stages based upon the duration of infection. A primary lesion in the genital region characterizes the first stage. The lesion is a shallow ulcer or papule, which is minimally symptomatic and rapidly heals without scarring. The second stage involves the swelling of locally draining lymph nodes, which forms into an inflammatory mass with loculations of pus (bubo). Progressive fibrosis leads to strictures in the rectum, draining buboes, and disfigurement of the external genitalia. The second and late stages may have associated constitutional signs and/or symptoms.

The diagnosis of LGV may be difficult. Perhaps the most definitive test is culture of an aspirate from the bubo; however, this is only about 50% sensitive. Other tests available include direct immunofluorescence or enzyme immunoassay of the bubo aspirate, but may be less sensitive or not available. A 4-fold rise in antibody titers is suggestive of LGV, but not specific as there may be cross reactions produced as a result of infections with other forms of chlamydial infections.1

The patient was treated with doxycycline 100 mg twice daily for 21 days with resolution of the bubo and no further recurrence of disease. The CDC recommendations for treatment of LGV are 21 days of doxycycline. Other agents which are active include co-trimoxazole, erythromycin, minocycline and tetracycline. Also, azithromycin as a 1-gram dose has been successful in HIV-infected patients with LGV, though most of the literature recommends antibiotic treatment for 21 days.[1,2] Patients with LGV should be followed weekly for at least 4 weeks or until signs and symptoms have resolved.

A recent report from the Netherlands has shown a dramatic increase in LGV among men who have sex with men and have unprotected anal intercourse. These presentations may be markedly atypical in that most of the men infected with LGV developed gastrointestinal bleeding and inflammation of the rectum and colon.[3] These atypical presentations should be distinguished from inflammatory bowel diseases. Proper diagnosis and treatment of LGV may also decrease the transmission of HIV since it has been shown that other ulcerative diseases, such as herpes and syphilis, increase risk of HIV acquisition.

For FREE continuing education opportunities related to STIs, visit the following web site at http://www.stdhivtraining.org/nnptc/about.cfm

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Treatment Recommendations

DISEASE	RECOMMENDATION	ALTERNATIVE REGIMEN
Primary and Secondary syphilis Early Latent syphilis (<1 year duration)	Benzathine penicillin 2.4 million units IM in a single injection	1. Doxycycline 100 mg po bid for 14 days **OR** 2. Tetracycline 500 mg po qid for 14 days
Latent syphilis (>1 year duration or unknown)	Benzathine penicillin 2.4 million units IM for three doses at 1-week intervals	1. Doxycycline 100 mg po bid for 28 days 2. Tetracycline 500 mg qid for 28 days
Neurosyphilis	Aqueous crystalline penicillin G 18-24 million units per day, administered as 3-4 million units IV every 4 hours or continuous infusion, for 10-14 days	Procaine penicillin 2.4 million units IM once daily plus Probenicid 500 mg orally four times a day, both for 10-14 days
Syphilis during pregnancy	Penicillin regimen appropriate for stage of syphilis	Penicillin allergic pregnant patients should be desensitized to penicillin
Gonorrhea	1. Ceftriaxone 125 mg IM in a single dose	1. Ciprofloxacin 500 mg orally in a single dose **OR** 2. Ofloxacin 400 mg orally in a single dose **OR** 3. Levofloxacin 250 mg orally in a single dose **Plus**, treat for Chlamydia infection if it has not been ruled out.
Chlamydia	1. Azithromycin 1 g orally in a single dose **OR** 2. Doxycycline 100 mg orally twice daily for 7 days	1. Erythromycin base 500 mg orally four times daily for 7 days **OR** 2. Erythromycin ethylsuccinate 800 mg orally four times daily for seven days **OR** 3. Ofloxacin 300 mg orally twice daily for 7 days **OR** 4. Levofloxacin 500 mg orally daily for 7 days
Chlamydia during pregnancy	1. Erythromycin base 500 mg orally four times daily for 7 days **OR** 2. Amoxicillin 500 mg orally three times daily for 7 days	1. Erythromycin base 500 mg orally four times daily for 14 days **OR** 2. Erythromycin ethylsuccinate 800 mg orally four times daily for 7 days **OR** 3. Erythromycin ethylsuccinate 400 mg orally four times daily for 14 days **OR** 4. Azithromycin 1 g orally in a single dose
HSV, first clinical episode	1. Acyclovir 400 mg three times daily for 7-10 days **OR** 2. Valacyclovir 1 g orally twice daily for 7-10 days **OR** 3. Famciclovir 250 mg orally three times daily **OR** 4. Acyclovir 200 mg orally five times daily	
Genital herpes, recurrence	Episodic therapy: 1. Above regimens for 5 days 2. Valacyclovir 500 mg for 3-5 days	Suppressive therapy: 1. Acyclovir 400 mg orally twice daily, indefinitely **OR** 2. Famciclovir 250 mg orally twice daily **OR** 3. Valacyclovir 500 mg orally once daily **OR** 4. Valacyclovir 1 g orally once daily
Hepatitis A*	-	-
Hepatitis B*	-	-

**Chronic hepatitis A and B treatment are beyond the scope of this text.*

SAVE THE DATES

"Improving the Management of HIV Disease" - Regional CME Courses
Los Angeles, CA - April 16, 2005
Chicago, IL - May 2, 2005
Washington, DC - May 20, 2005
San Francisco - June 1, 2005
Visit: www.iasusa.org/registration/index.html

NCCHC Updates in Correctional Health Care
April 9-12, 2005
Las Vegas, NV
Visit: www.ncchc.org

AMFAR National HIV/AIDS Update Conference
April 10-13, 2005
Oakland, CA
Visit: www.amfar.org

ICAAC Meeting
September 21-24, 2005
New Orleans, LA
Visit: www.icaac.org

United States Conference on AIDS
September 28-October 2, 2005
Houston, TX
Visit: www.nmac.org

Infectious Diseases Society of America
October 6-9, 2005
San Francisco, CA
Visit: www.idsociety.org

National Conference on Correctional Health Care
October 8-12, 2005
Denver, CO
Visit: www.ncchc.org

Society of Correctional Physicians Annual Meeting
October 9, 2005
Denver, CO
Visit: www.corrdocs.org

IN THE NEWS

CONGRATULATIONS!
Dr. Joseph Bick was awarded the Body's HIV Leadership Award for *"Outstanding HIV/AIDS Clinician."*

FDA Approves Pegasys and Copegus as Only Hepatitis C Treatment for HIV Patients
On February 25, 2005, the Food and Drug Administration (FDA) approved Pegasys® (peginterferon alfa-2a) and Copegus® (ribavirin) for the treatment of chronic hepatitis C virus (HCV) in HIV/HCV co-infected patients. Pegasys combination therapy is the first and only FDA approved regimen for HCV treatment in HIV-infected patients. The FDA based its' approval on results from the AIDS Pegasys Ribavirin International Co-infection Trials (APRICOT), which evaluated chronic HCV treatment in patients co-infected with HIV/HCV. Pegasys is dosed at 180 mcg as a subcutaneous injection administered once weekly. Copegus is available as a 200 mg tablet, and is administered orally twice daily as a split dose. Generic ribavirin is also available at a reduced cost. The FDA is currently reviewing an indication for Pegasys for the treatment of chronic HBV.
www.ap.org

Switching from Thymidine Analogs Improves Lypoatrophy
Options for patients with peripheral lipoatrophy are limited. The MITOX and TARHEEL studies demonstrated that switching from a thymidine analog partially reversed lipoatrophy. The ACTG 5125 study demonstrated that switching to a nucleoside reverse transcriptase inhibitor (NRTI) sparing regimen increased peripheral lipoatrophy. Murphy et al analyzed 101 patients who were receiving the thymidine analogues d4T or AZT as part of their treatment regimens, with HIV RNA <500 copies/mL, and clinical evidence of lipoatrophy. Patients were randomized to: (1) switch thymidine analogues to abacavir (ABC), (2) switch thymidine analogues to lopinavir/ritonavir (LPV/r) plus nevirapine (NVP), or (3) delay switching for 24 weeks. All patients were followed for 48 weeks post-intervention. Results at 24 weeks showed that subcutaneous thigh fat increased in the LPV/r + NVP group. There were SAT increases and VAT:TAT decreases for both interventions, and a decreased VAT for patients receiving the ABC regimen. There was also a significant increase in CD4 cell count for patients receiving the LPV/r + NVP regimen. Murphy et al concluded that, in patients with lipatrophy, switching d4T or AZT to a non-thymidine analogue or changing to a NRTI-sparing regimen is associated with significant improvements in SAT, VAT, and VAT:TAT, while maintaining virologic control and improving CD4 cell count.
Murphy Robert, et al. Switching to a thymidine analog-sparing or nucleoside-sparing regimen improves lipoatrophy: 24-week results of a prospective randomized clinical trial, AACTG 5110. 12th Conference on Retroviruses and Opportunistic Infections. Session 10 oral abstracts. Boston, MA: February 23, 2005.

Tipranivir/Ritonavir is Superior to Lopinavir/Ritonavir
Cooper et al analyzed the RESIST trials to compare the efficacy of Tipranivir/ritonavir (TPV/r) and Lopinavir/ritonavir (LPV/r), and to assess the role of additional active drugs in the optimized background regimen (OBR). Of the 1,483 patients randomized and treated in the two trials, 1,159 were available for analysis at 24 weeks. At 24 weeks, in the TPV/r and LPV/r groups, 34% and 18%, respectively, had viral loads <400 copies/mL; 24% and 11%, respectively, had viral loads <50 copies/mL, and CD4 cell count increase was +31 cells and +6 cells, respectively. The 24-week treatment response increased in both the TPV/r and LPV/r groups with the use of additional active background antiretroviral agents. Cooper et al concluded that TPV/r is superior to LPV/r in PI-experienced HIV-infected patients.
Cooper David, et al. 24-Week RESIST study analyses: the efficacy of tipraniavir/ritonavir is superior to lopinavir/ritonavir, and the TPV/r treatment response is enhanced by inclusion of genotypically active antiretrovirals in the optimized background regimen. 12th Conference on Retroviruses and Opportunistic Infections. Session 97 poster abstracts. Boston, MA: February 24, 2005.

Tenofovir for HIV/HBV Co-infection
Peters et al assessed the non-inferiority of TDF with adefovir dipivoxil (ADV) with respect to HBV DNA, assessed the clinical response to ADV versus TDF, and evaluated the safety and tolerability of ADV and TDF. Subjects received daily either ADV 10mg plus TDF placebo or TDF 300mg plus ADV placebo for up to 96 weeks. Non-inferiority was defined with a tolerance of -1 log. Mean log10 average change from baseline to 44 weeks was -4.44 and -3.21 in the TDF and ADV arms, respectively. Peters et al concluded that both ADV and TDF successfully lower HBV DNA and are safe and efficacious in HIB/HBV co-infected patients over 48 weeks.
Peters Marion, et al. Tenofovir disoproxil fumarate is not inferior to adefovir dipivoxil for the treatment of hepatitis B virus in subjects who are co-infected with HIV: results of ACTG A5127. 12th Conference on Retroviruses and Opportunistic Infections. Session 31 oral abstracts. Boston, MA: February 24, 2005.

RESOURCES

CDC. National Center for HIV, STD and TB Prevention. Division of Sexually Transmitted Diseases
http://www.cdc.gov/nchstp/dstd/aboutdiv.htm

National Network of STD/HIV Prevention Training Centers
http://depts.washington.edu/nnptc/

Seattle STD/HIV Prevention Training Center
http://depts.washington.edu/seaptc/

Self-Assessment Test for Continuing Medical Education Credit

Brown Medical School designates this educational activity for one hour in category one credit toward the AMA Physician's Recognition Award. To be eligible for CME credit, answer the questions below by circling the letter next to the correct answer to each of the questions. A minimum of 70% of the questions must be answered correctly. This activity is eligible for CME credit through September 30, 2005. The estimated time for completion of this activity is one hour and there is no fee for participation.

1. The following statements regarding syphilis are true:
   a. Approximately 60% of all syphilis cases occur among men who have sex with men.
   b. The highest prevalence rates of syphilis are reported among southern states and in corrections.
   c. Non-treponemal tests are used to confirm treponemal tests.
   d. A and B
   e. All of the above

2. Approximately what percentage of male inmates entering correctional facilities present with syphilis, gonorrhea, and Chlamydia, respectively?
   a. 7.5%, 2.3%, and 6.4%
   b. 2.3%, 1.8%, and 6.4%.
   c. 6.4%, 1.8%, and 2.3%
   d. 3.4%, 1.8%, and 6.3%
   e. None of the above

3. It is estimated that approximately 60 million individuals worldwide have genital HSV infection. True or False?
   a. True
   b. False

4. The following statements regarding the diagnosis of STIs are all true, except:
   a. Syphilis is most often diagnosed by serologic testing, which may include the RPR or VDRL tests.
   b. Nucleic amplification testing of urine samples can be used to diagnose syphilis, gonorrhea, and Chlamydia.
   c. The acute phase of HSV infection often presents as genital ulcers, inguinal adenopathy, and slight fever.
   d. Gonorrhea and Chlamydia infection in females is often asymptomatic.
   e. None of the above

5. The CDC recommendations for treatment of LGV are closest to which of the following?
   a. 100 mg doxycycline for 12 days.
   b. 50 mg doxycycline for 21 days.
   c. 100 mg doxycycline fpr 21 days.
   d. 50 mg doxycycline for 12 days.

IDCR Evaluation

5 Excellent 4 Very Good 3 Fair 2 Poor 1 Very Poor

1. Please evaluate the following sections with respect to:

	educational value	clarity
Main Article	5 4 3 2 1	5 4 3 2 1
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2. Do you feel that IDCR helps you in your work?
   Why or why not?

3. What future topics should IDCR address?

4. How can IDCR be made more useful to you?

5. Do you have specific comments on this issue?

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