Montana Health Alert Network

DPHHS HAN

ADVISORY

Cover Sheet

DATE

April 13, 2021

SUBJECT

Increased incidence of congenital syphilis and syphilis in Montana women of childbearing age

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1-406-444-3565

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Information Sheet

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Increased incidence of congenital syphilis and syphilis in Montana women of childbearing age

BACKGROUND

Local and state public health officials are continuing to see reports of syphilis of all stages in Montana. In 2020 and 2021, 122 cases of all stages of syphilis have been reported across the state. Of the 40 females infected with syphilis in the last 15 months, 93% were of childbearing age. Two congenital syphilis cases were reported in 2020. So far in 2021, one infant has been diagnosed with congenital syphilis after delivery, and one pregnancy ended in a stillbirth due to syphilis. Montana's last occurrence of syphilitic stillbirth occurred in 1995 according to Montana state death records from the Office of Vital Statistics. Continued transmission of syphilis between men and women poses a threat to women of childbearing age. Syphilis during pregnancy can cause severe complications, birth defects, fetal demise, and death of the infant after delivery. Challenges with these identified cases include noncompliance with follow up, inappropriate treatment, history of drug use and coinfection with other sexually transmitted infections.

INFORMATION

Health care providers are encouraged to continue efforts to assess sexual health risks of patients, particularly pregnant women, and provide appropriate testing and treatment in addition to promptly reporting cases to local public health authorities. Symptoms spontaneously resolve after the primary and secondary stages and can possibly be difficult to self-identify (i.e. internal vaginal chancres). Therefore, assessing sexual behaviors and routine screening, especially during prenatal visits, becomes particularly important for women.

RECOMMENDATIONS

Critical Recommendations Healthcare Providers

Clinicians and public health can assist by following all recommendations below and increasing screening for those at moderate and high risk including:

- pregnant women
- persons with history of drug use
- persons with another sexually transmitted infection such as chlamydia or gonorrhea

Additionally, clinicians should consider guidelines for presumptive treatment when primary or secondary symptoms are present and there is concern the patient may not follow-up for treatment.
https://www.cdc.gov/std/syphilis/CTAproviders.htm

Treat Women Infected with Syphilis Immediately

If a woman has syphilis or suspected syphilis, treat her immediately with long-acting penicillin G, especially if she is pregnant, according to CDC's STD Treatment Guidelines. Test and treat the infected woman's sex partner(s) to avoid reinfection. If you have challenges obtaining benzathine penicillin G (Bicillin L-A), contact your state or local health department.

Immediately Treat High Risk Individuals and Report Syphilis Cases

Stage and treat syphilis cases according to CDC's STD Treatment Guidelines. Presumptively treat all MSM with signs or symptoms suggestive of primary or secondary syphilis and all MSM who are sexual contacts to a case of syphilis at the initial visit. If you have challenges obtaining penicillin G, contact your state or local health department. Report all syphilis cases by stage to your state or local health department.

Continued Recommendations for Healthcare Providers

Routine testing is recommended for:

- men who have sex with men (MSM),
- pregnant women,
- persons who have HIV infection,
- persons who have partner(s) who have tested positive for syphilis,
- any person with high risk sexual behavior such as multiple concurrent partners, anonymous sex, sex while high or intoxicated or substance abuse and women who have sex with MSM.

Additional recommendations regarding screening, diagnosis, treatment, and required reporting for pregnant women are below, as well as recommendations for local public health and links to additional resources.

Prevention of Congenital Syphilis

Prevent congenital syphilis in newborn babies by treating the infected mother early is imperative.

Patient Assessment/Screening

- All pregnant women at the first prenatal visit
- Retest twice in the third trimester at 28-32 weeks and at delivery, if at high risk (contact to known syphilis case, infection with other sexually transmitted diseases, residence in an area with high syphilis prevalence)
- Any woman who has experienced a fetal demise after 20 weeks should be tested for syphilis
- When syphilis is diagnosed in the second half of pregnancy, management should include a sonographic fetal evaluation for congenital syphilis. Sonographic signs of fetal or placental syphilis (i.e., hepatomegaly, ascites, hydrops, fetal anemia, or a thickened placenta) indicate a greater risk for fetal treatment failure; cases accompanied by these signs should be managed in consultation with obstetric specialists. Evidence is insufficient to recommend specific regimens for these situations.
- All women who have syphilis should be offered HIV testing.

The risk of transmission to the fetus during pregnancy is estimated in this graphic:

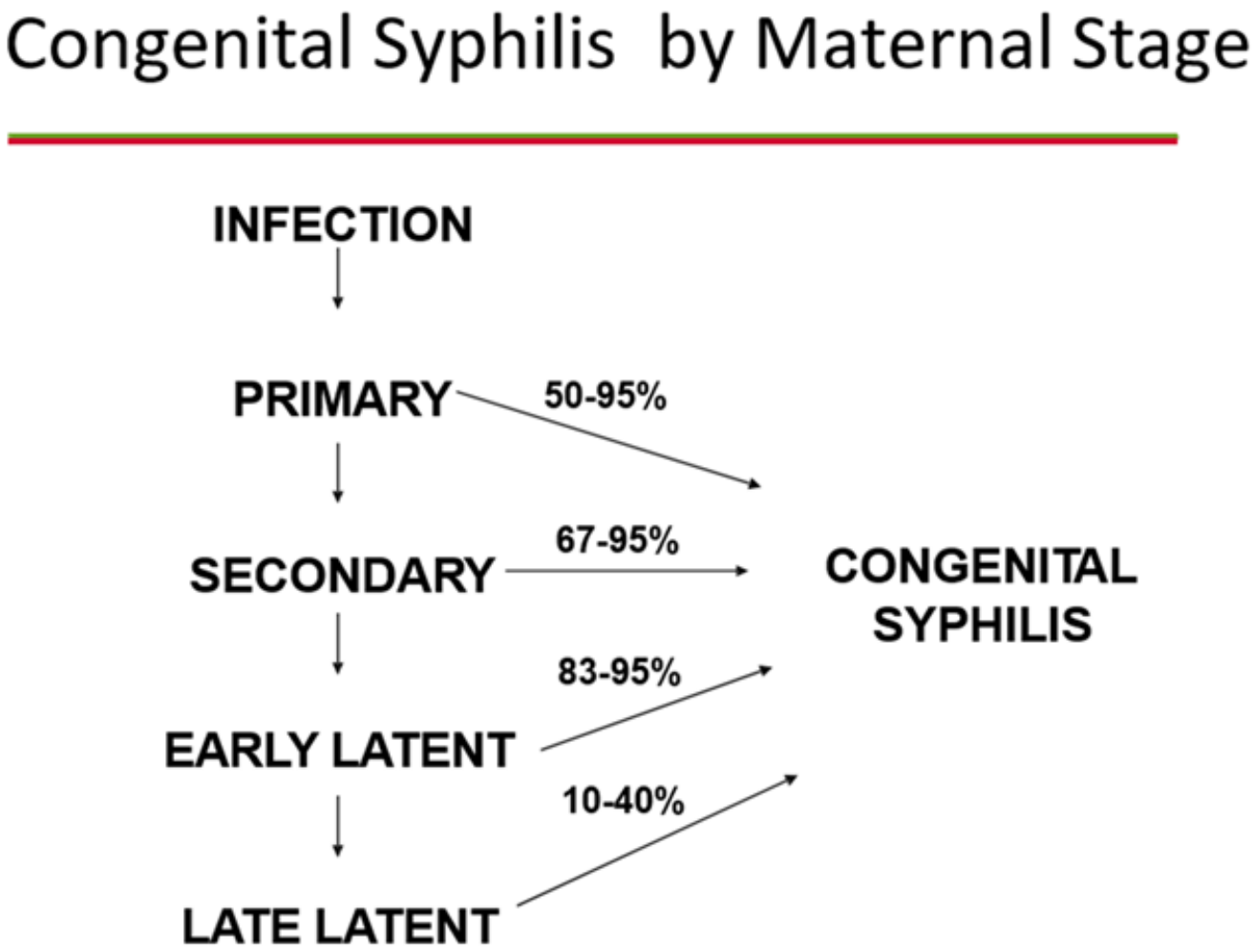

Image from: North Dakota Department of Health HIV/STD/TB/Hepatitis Program, 2016

Testing

Nontreponemal tests commonly used for initial screening include:

- Venereal Disease Research Laboratory test (VDRL)
- Rapid plasma reagin test (RPR)

Note: ***Quantitative tests (titers) generally reflect the activity of the infection***. Titers are essential to diagnose syphilis reinfection as the treponemal tests will most likely remain positive for a lifetime for those previously infected.

Confirmatory tests include:

- *Treponemal pallidum* particle agglutination test (TP-PA)
- Fluorescent treponemal antibody absorbed test (FTA-ABS)
- *T. pallidum* enzyme immunoassay antibody test (TP-EIA)

- Chemiluminescence immunoassay (CIA)

Note: As a group, these tests are based upon the detection of antibodies directed against specific treponemal antigens. Treponemal tests are qualitative only and are reported as "reactive" or nonreactive"

Any woman who has a fetal death after 20 weeks' gestation should be tested for syphilis. No mother or neonate should leave the hospital without maternal serologic status having been documented at least once during pregnancy, and if the mother is considered high risk, documented at delivery.

Reporting

Reporting of suspected and confirmed cases of syphilis is ***required by state reporting rules***. Public health authorities are required to ensure proper treatment is administered and will conduct contact-tracing efforts to identify partners who may be at risk of infection. Prompt reporting by clinicians is essential to break the disease transmission cycle.

Treatment

Appropriate treatment is critical to control the spread of infection and required by Montana Administrative Rules. Treat syphilis in pregnant women as soon as infection is identified with the penicillin regimen appropriate for the stage of infection. Benzathine penicillin G (Bicilin L-A) is a slow-onset anitibiotic with a duration of action of 1-4 weeks, peak action occurs at 13-24 hours.

Recommended treatment for syphilis in pregnancy (without symptoms of neurosyphilis):

- Recommended regimen for pregnant women with *Primary, Secondary Syphilis or Early Latent Syphilis*: Benzathine penicillin G 2.4 million units IM in a single dose
- *Late Latent Syphilis or Latent Syphilis of Unknown Duration or Tertiary Syphilis with Normal CSF Examination*: Benzathine penicillin G 7.2 million units total, administered as 3 doses of 2.4 million units IM each at 1-week intervals. Skipped doses are unacceptable for pregnant women. Pregnant women who miss doses must repeat the full course of therapy.
- ***No proven alternatives to penicillin are available for treatment of syphilis during pregnancy. Pregnant women who have a history of penicillin allergy should be desensitized and treated with penicillin. Skin testing or oral graded penicillin dose challenge might be helpful in identifying women at risk for acute allergic reactions.***
- Some evidence suggests that additional therapy is beneficial for pregnant women. For women who have primary, secondary or early latent syphilis, a second dose of benzathine penicillin 2.4 million units IM can be administered 1 week after the initial dose.
- For more information, please consult the 2015 *Sexually Transmitted Diseases Treatment Guidelines, Syphilis During Pregnancy* (https://www.cdc.gov/std/tg2015/syphilis-pregnancy.htm)

Neurosyphilis can occur at any stage. The recommended regimen for neurosyphilis includes using 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. Aqueous crystalline penicillin G has an immediate peak action, and an unknown duration of action, and is not intended for weekly dosing. See the 2015 STD Treatment Guidelines for more diagnostic considerations and alternative regimen recommendations (https://www.cdc.gov/std/tg2015/syphilis.htm#Neurosyphilis).

Please review the recommendations for evaluation and treatment of congenital syphilis in the 2015 STD Treatment Guidelines as there are a number of variables to consider such as maternal treatment and diagnostic information along with the neonate's assessment (https://www.cdc.gov/std/tg2015/congenital.htm).

Follow-up

The follow-up of patients with syphilis is extremely important to document response to therapy and to reevaluate for reinfection. The following are general recommendations for follow-up after treatment.

- Patients treated for primary or secondary syphilis should be reexamined clinically and serologically 6 months and 12 months following treatment.
- Patients with latent syphilis should be followed up clinically and serologically at 6, 12, and 24 months.
- Follow-up titers should be compared to the maximum or baseline nontreponemal titer obtained prior to treatment.

Follow-Up Congenital Cases

- All neonates with reactive nontreponemal tests should receive careful follow-up examinations and serologic testing (i.e., a nontreponemal test) every 2–3 months until the test becomes nonreactive.
- At 6 months, if the nontreponemal test is nonreactive, no further evaluation or treatment is needed.
- Treated neonates that exhibit persistent nontreponemal test titers by 6–12 months should be re-evaluated through CSF examination and managed in consultation with an expert.

Training Resources

- National STD Curriculum, Syphilis Quick Reference https://www.std.uw.edu/go/pathogen-based/syphilis/core-concept/all
- National STD Curriculum, Congenital Syphilis and Syphilis in Women https://www.std.uw.edu/podcast

Syphilis Progression and Complications in Adults

Exposure to pathogen

Primary incubation-21 Days (range 3-90 days)

Primary Syphilis (Infectious)
Chancre
Regional lymphadenopathy

Secondary incubation 4-10 weeks

Secondary Syphilis (Infectious)
Rash
Gumma lesions
Condylomata lata
Alopecia
Malaise
Lymphadenopathy

Typical progression of disease if left untreated

<1 year duration after infection

Early Latent Syphilis - Early Non-Primary, Non-Secondary (Infectious)
Asymptomatic

Infections >1 year of duration

Late Latent Syphilis, or Syphilis of Unknown Duration (Infectious Vertically)
Asymptomatic

Tertiary Syphilis (Non-Infectious)
15 years after infection
Gummatous Syphilis (skin, bone, liver, nasal septum/hard palate perforation)

10-30 years after infection
Cardiovascular Syphilis (Aortitis)
90% asymptomatic
10% have angina
Also noted - aortic regurgitation, coronary artery stenosis, aneurysm

Neurosyphilis

Invasion of *T. pallidum* into the central nervous system

Can occur at any stage

Early Neurosyphilis
Roughly 5% of early syphilis cases, risk increases with HIV infection, may be asymptomatic
May present with severe headache, confusion, nausea, vomiting, stiff neck, deafness, or optic neuritis.

Categories:

- **Syphilitic meningitis**
- **Ocular syphilis**
- **Otosyphilis**

All cases of syphilis with neurological manifestations must be staged.

Rarely fatal in modern times, but can be damaging.

Late Neurosyphilis
~4-7 Years
Meningovasciular syphilis

~10-20 Years
General Paresis
Progressive dementia

~15-25 Years (Average of 20 years)
Tabes Dorsalis

References:
Control of Communicable Diseases Manual (CCDM), 20th Edition, Centers for Disease Control and Prevention (CDC), 2015.
Marra, Christina M. *Neurosyphilis* Up to Date, August 29, 2017.
Chart adapted from: Kent, Molly E. *Reexamining Syphilis: An Update on Epidemiology, Clinical Manifestations, and Management* Annals of Pharmacotherapy, 2008.

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MONTANA STD/HIV PROGRAM