Prevention of Congenital Syphilis:
Guidelines for syphilis screening in pregnancy in the St. Louis Region

A recommendation of the St. Louis STI Regional Response Coalition (STIRR) for testing of all pregnant women for syphilis and repeat testing early in the third trimester of pregnancy and at delivery for the St. Louis region.

ROUTINE SCREENING

St. Louis Region. Congenital syphilis rates in Missouri were higher in 2016 than they have been in decades.[1] CDC recommendations and Missouri legislation require syphilis testing for all pregnant women in the first trimester or at the first prenatal visit.[2, 3, 4] Due to high prevalence of primary and secondary syphilis in the St. Louis region, STIRR recommends additional screening for syphilis between 28 and 32 weeks and repeat testing at delivery for all pregnant women.[2, 3, 4] This testing may be considered as early as 24 weeks to be drawn with the gestation diabetes screening test.

Outside of St. Louis. Four of the 10 cases of congenital syphilis in Missouri in 2016 occurred outside of St. Louis and Kansas City. In areas of lower prevalence, STIRR recommends first trimester testing for all pregnant women. Third trimester syphilis testing and testing at delivery can be routine for all patients or based on risk factors. Risk factors for syphilis include drug use, diagnosis of another sexually transmitted infection during pregnancy, new or multiple partners during pregnancy and sex with non-monogamous partners.

Testing and treatment of infants. Infants should not be discharged from the hospital without syphilis testing of the mother at least once during pregnancy and preferably again at delivery. Refer to CDC guidelines for additional details: https://www.cdc.gov/std/tg2015/congenital.htm. Decisions for evaluation and treatment of newborns are based on the timing and treatment regimen of the mother and history of ultrasound finding of the neonate.[4]

Stillbirth. Patients with a stillbirth after 20 weeks of pregnancy should be tested for syphilis.[2, 3, 4]

BACKGROUND

Congenital syphilis rates in Missouri were higher in 2016 than they have been in decades.[1] This parallels an increase in men as well as women of childbearing age in Missouri and throughout the United States. Congenital syphilis rates in the United States rose 39% from 2012-2014 to rates highest since 2001 and rates continue to increase.[5]

Syphilis infection during pregnancy increases adverse pregnancy outcomes including preterm birth, stillbirth, and vertical transmission. Congenital syphilis can lead to newborn and childhood illness including hydrops, hepatosplenomegaly, rashes, fevers, failure to thrive, deformity of the face, teeth and leg bones, blindness and deafness.

Prevention of congenital syphilis requires timely identification of maternal infection and adequate treatment. Adequate treatment of syphilis in pregnant women more than 30 days prior to delivery dramatically decreases the rate of congenital syphilis.[2]

TREATMENT FOR SYPHILIS IN PREGNANCY

Pregnant women with syphilis should be treated similar to non-pregnant adults, with one to three shots of benzathine penicillin G, 2.4 million units IM depending on the stage of syphilis. The number of doses is based on the stage of syphilis, similar to non-pregnant adults. However, pregnant women, especially those who have fetal abnormalities on ultrasound, are at increased risk for treatment failure and a second dose of penicillin G can be given 1 week later for primary, secondary or early latent syphilis. Patients with penicillin allergies should be desensitized and treated with penicillin. [2, 3]

Jarisch-Herxheimer reactions are related to an acute inflammatory response when there is rapid killing of spirochetes and release of cytokines. This reaction occurs in up to 44% of pregnant women within 2 hours of treatment and can cause symptoms of fever, tachycardia, and chills, and can increase the risk of preterm labor, fetal heart rate abnormalities, and stillbirth. Symptoms and risks abate by 24 hours. Patients receiving treatment for syphilis during a gestational age that is viable should be admitted for continuous fetal monitoring for 24 hours. [2, 3]

OTHER CONSIDERATIONS

Types of testing. Screening for syphilis with nontreponemal antibody testing (RPR or VDRL) is typical, but reverse screening protocols using screening treponemal antibody testing are also acceptable.

State reporting. Syphilis is a reportable illness and should be reported to the Missouri State Health Department.

Partner testing and treatment should be initiated to prevent reinfection during pregnancy.

Fetal evaluation. Fetal ultrasound should be performed to evaluate for in utero signs of syphilitic infection, including fetal hydrops/ascites, hepatosplenomegaly, elevated amniotic fluid volume, thickened placenta, growth restriction. Treatment for syphilis >30 days prior to delivery frequently reverses the ultrasound findings and improves outcomes.

Encourage prenatal care. Lack of prenatal care is a major risk factor for congenital syphilis. Women should be encouraged to seek prenatal care and be tested for syphilis.

HIV Testing. Syphilis infection is closely related to risk of HIV infection, strong consideration should be given to associate HIV screening in combination with syphilis screening.

For questions please contact the Missouri Bureau of HIV, STD, and Hepatitis at 314-877-0245.
Consultation for STI issues is available through the NNPTC consult web site at www.stdccn.org.
Information on STIRR may be found at www.stlstirr.org

References

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4. American Academy of Pediatrics, American College of Obstetricians and Gynecologists. Guidelines for perinatal care. 7th ed. Elk Grove Village (IL): AAP; Washington, DC: American College of Obstetricians and Gynecologists; 2012. p. 426-432.
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