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To: Oregon Medical Providers

From: Tim W. Menza, MD, PhD
Medical Director

RE: Syphilis screening and treatment in pregnancy

In 2017, the Sexually Transmitted Infection Surveillance Program at the Oregon Health Authority documented the highest number of syphilis cases among women that we have ever seen in Oregon. Historically, there has been a greater than 10-fold difference in the number of cases among men compared to women. However, we may see almost equal numbers of syphilis cases among men and women in some counties by the close of 2018. As a result of increasing incident syphilis among women of reproductive age, we are now seeing more congenital syphilis.

Screening

Based on these data and the recommendations of the United States Preventive Task Force and other medical societies, we strongly recommend screening all pregnant women at the following times:[1]

- First prenatal visit
- Beginning of the third trimester
- At delivery

In 2017, over one-fifth of pregnant women with syphilis were diagnosed in their third trimester or at delivery after a negative RPR at the first prenatal visit. In other words, we would have missed 22% of incident syphilis among pregnant women if we only screened at the first prenatal visit. Because an RPR may take up to 12 weeks to become reactive after exposure, we also ask that you strongly consider screening for syphilis at the post-partum visit.

Treatment

Treatment of syphilis during pregnancy should be with a penicillin regimen appropriate for the pregnant woman's stage of syphilis (Table). In primary, secondary, and early non-primary non-secondary syphilis, we strongly recommend two doses of benzathine penicillin G (BPG) administered weekly, based on data showing that two doses may be more effective than a single dose at preventing congenital syphilis and other adverse fetal outcomes.[2,3] As HIV infection is a risk factor for treatment failure, HIV-positive pregnant women with early syphilis should receive at least two doses of BPG, if not three.[4–6] In late syphilis or syphilis of unknown duration, all women should receive three doses of BPG weekly. Any missed dose warrants repeating therapy from the start.

T. pallidum neuroinvasion occurs in 20-60% of patients during primary or secondary syphilis and neurologic and ocular symptoms can occur at any stage of infection.[7] As management requires intravenous penicillin for 10-14 days, screening women for neurologic and ocular symptoms at the time of syphilis diagnosis is imperative.

Table. Treatment recommendations for syphilis during pregnancy		
Primary	Benzathine penicillin G 2.4 million units intramuscularly (IM) x 2	For HIV-positive women, administer at least two doses of benzathine penicillin G 2.4 million units IM and strongly consider three doses
Secondary		
Early non-primary, non-secondary		
Late syphilis (>1 year or unknown duration)	Benzathine penicillin G 2.4 million units intramuscularly (IM) weekly x 3	
Neuro or ocular syphilis	Penicillin 4 million units intravenously every 4 hours for 10-14 days	

Risks

With a more aggressive approach to treatment, one might be concerned about the risks of resistance and adverse events related to BPG. Penicillin resistance has not been identified in any syphilis isolates. In a large meta-analysis of the safety of BPG for syphilis treatment, there were no serious adverse reactions among pregnant women.[8] Among the over 2 million patients treated (pregnant and not pregnant), 54 (0.002%) experienced anaphylaxis and 4 (0.0002%) died from an adverse reaction. Put another way, for every 100,000 people treated with BPG, we would expect 0 to 3 cases of anaphylaxis. Thus, BPG is a very safe intervention.

Approximately 5-10% of pregnant women report an allergy to penicillin.[9] Women who report an allergy to penicillin should be referred for skin testing on an urgent basis. If negative, the patient can be treated with BPG. If positive, the patient should undergo penicillin desensitization. There is no satisfactory alternative to penicillin for the treatment of syphilis during pregnancy.

Follow-up

After the completion of treatment, women should have monthly follow-up of RPR titers to evaluate the effectiveness of treatment, defined as a 4-fold decrease in RPR titer. That said, most women will deliver before their serologic response to treatment can be assessed definitively. Thus, neonatal evaluation for congenital syphilis is crucial to ensuring timely appropriate therapy for baby.

Resources

The Centers for Disease Control and Prevention 2015 STD Treatment Guidelines are available online.[10] You can also download the STD Tx Guidelines app to your Apple or Android mobile device for easy access.

We are here for you. If you have any questions or concerns, please contact your local public health authority or the STI Program at the Oregon Health Authority at 971-673-0153.

Thank you for working hard to stem the rising tide of sexually transmitted infections in Oregon.

Sincerely,

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Tim W. Menza, MD, PhD

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