

Infectious disease pop quiz: Clinical challenges for the ObGyn

Concise Q&As to hone your skills in infectious disease symptoms, diagnostic tests, and treatment in pregnant and nonpregnant women

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In this question-and-answer article (the first in a series), our objective is to reinforce for the clinician several practical points of management for common infectious diseases. The principal references for the answers to the questions are 2 textbook chapters written by Dr. Duff.^{1,2} Other pertinent references are included in the text.

1. What are the best tests for the diagnosis of congenital cytomegalovirus (CMV) infection?

When congenital CMV is suspected, if the patient is at least 15 weeks' gestation, an amniocentesis should be performed to test for CMV DNA in the amniotic fluid using polymerase chain reaction (PCR) methodology. If the initial test is negative, amniocentesis should be repeated in approximately 4 weeks. Coincident with amniocentesis, a detailed ultrasound examination should be performed to search for findings suggestive of fetal injury,



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such as growth restriction, microcephaly, periventricular calcifications, hepatosplenomegaly, echogenic bowel, and serous effusions in the pleural space or abdomen.

2. Which major organisms cause urinary tract infections (UTIs) in women?

The most common causative organism is *Escherichia coli*, which is responsible for approximately 70% of all UTIs. *Klebsiella pneumoniae* and *Proteus* species are the 2 other aerobic gram-negative bacilli that are common uropathogens. In addition, 3 gram-positive cocci are important: enterococci, *Staphylococcus saprophyticus*, and group B streptococcus.

3. What are the major complications of pyelonephritis in pregnancy?

Pyelonephritis is an important cause of preterm labor, sepsis, and adult respiratory distress syndrome. Most cases of pyelonephritis develop as a result of an untreated or inadequately treated lower urinary tract infection.

4. What is the most ominous manifestation of congenital parvovirus infection, and what is the cause of this abnormality?

Hydrops fetalis is the most ominous complication of congenital parvovirus infection. The virus crosses the placenta and attacks red cell progenitor cells, resulting in an aplastic anemia. In addition, the virus may cause myocarditis that, in turn, may result in cardiac failure in the fetus.

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5. What are the major manifestations of congenital rubella syndrome?

Rubella is one of the most highly teratogenic of all the viral infections, particularly when maternal infection occurs in the first trimester. Manifestations of congenital rubella include hearing deficits, cataracts, glaucoma, microcephaly, mental retardation, cardiac malformations such as patent ductus arteriosus and pulmonic stenosis, and growth restriction.

6. Which vaccines are contraindicated in pregnancy?

Live virus vaccines should not be used in pregnancy because of the possibility of teratogenic effects. Live agents include the measles, mumps, and rubella (MMR) vaccine; live influenza vaccine (FluMist); oral polio vaccine; BCG (bacille Calmette-Guerin) vaccine; yellow fever vaccine; and smallpox vaccine.

7. What is the most appropriate treatment for trichomonas infection in pregnancy?

Trichomonas infection should be treated with oral metronidazole 500 mg twice daily for 7 days. Metronidazole also can be given as a single oral 2-g dose. This treatment is not quite as effective as the multidose regimen, but it may be appropriate for patients who are not likely to be adherent with the longer course of treatment.

Resistance to metronidazole is rare; in such instances, oral tinidazole 2 g in a single dose may be effective.

8. For uncomplicated gonorrhea in a pregnant woman, what is the most appropriate treatment?

The current recommendation from the Centers for Disease Control and Prevention for treatment of uncomplicated gonorrhea is a single 500-mg intramuscular dose of ceftriaxone. For the patient who is opposed to an intramuscular injection, an alternative treatment is cefixime 800 mg orally. With either of these regimens, if chlamydia infection cannot be excluded, the pregnant patient also should receive azithromycin 1,000 mg orally in a single dose. In a nonpregnant patient, doxycycline 100 mg orally twice daily for 7 days should be used to cover for concurrent chlamydia infection.

In a patient with an allergy to β -lactam antibiotics, an alternative regimen for treatment of uncomplicated gonorrhea is intramuscular gentamicin 240 mg plus a single 2,000-mg dose of oral azithromycin. (St Cyr S, Barbee L, Workowski KA, et al. Update to CDC's treatment guidelines for gonococcal infection, 2020. *MMWR Morbid Mortal Wkly Rep.* 2020;69:1911-1916.) ●

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