

PART 2

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 second 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.

9. For uncomplicated chlamydia infection in a pregnant woman, what is the most appropriate treatment?

Uncomplicated chlamydia infection in a pregnant woman should be treated with a single 1,000-mg oral dose of azithromycin. An acceptable alternative is amoxicillin 500 mg orally 3 times daily for 7 days.

In a nonpregnant patient, doxycycline 100 mg orally twice daily for 7 days is also an appropriate alternative. However, doxycycline is relatively expensive

and may not be well tolerated because of gastrointestinal adverse effects. (Workowski KA, Bolan GA. Sexually transmitted diseases treatment guidelines, 2015. *MMWR Morbid Mortal Wkly Rep.* 2015;64[RR3]:1-137.)

10. What are the characteristic mucocutaneous lesions of primary, secondary, and tertiary syphilis?

The characteristic mucosal lesion of primary syphilis is the painless chancre. The usual mucocutaneous manifestations of secondary syphilis are maculopapular lesions (red or violet in color) on the palms and soles, mucous patches on the oral membranes, and condyloma lata on the genitalia. The classic mucocutaneous lesion of tertiary syphilis is the gumma.

Other serious manifestations of advanced syphilis include central nervous system abnormalities, such as tabes dorsalis, the Argyll Robertson pupil, and dementia, and cardiac abnormalities, such as aortitis, which can lead to a dissecting aneurysm of the aortic root. (Workowski KA, Bolan GA. Sexually transmitted diseases treatment guidelines, 2015. *MMWR Morbid Mortal Wkly Rep.* 2015;64[RR3]:1-137.)

11. In a pregnant woman with a history of recurrent herpes simplex virus infection, what is the best way to prevent an outbreak of lesions near term?

Obstetric patients with a history of recurrent herpes simplex infection should be treated with acyclovir 400 mg orally 3 times

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daily from 36 weeks until delivery. This regimen significantly reduces the likelihood of a recurrent outbreak near the time of delivery, which if it occurred, would necessitate a cesarean delivery. In patients at increased risk for preterm delivery, the prophylactic regimen should be started earlier.

Valacyclovir, 500 mg orally twice daily, is an acceptable alternative but is significantly more expensive.

12. What are the best office-based tests for the diagnosis of bacterial vaginosis?

In patients with bacterial vaginosis, the vaginal pH typically is elevated in the range of 4.5. When a drop of potassium hydroxide solution is added to the vaginal secretions, a characteristic fishlike (amine) odor is liberated (positive “whiff test”). With saline microscopy, the key findings are a relative absence of lactobacilli in the background, an abundance of small cocci and bacilli, and the presence of clue cells, which are epithelial cells studded with bacteria along their outer margin.

13. For a moderately ill pregnant woman, what is the most appropriate antibiotic combination for inpatient treatment of community-acquired pneumonia?

This patient should be treated with intravenous ceftriaxone (2 g every 24 hours) plus oral or intravenous azithromycin. The appropriate oral dose of azithromycin is 500 mg on day 1, then 250 mg daily for 4 doses. The appropriate intravenous dose of azithromycin is 500 mg every 24 hours. The goal is to provide appropriate coverage for the most likely pathogens: *Streptococcus pneumoniae*, *Haemophilus influenzae*, *Moraxella catarrhalis*, and mycoplasmas. (Antibacterial drugs for community-acquired pneumonia. *Med Lett Drugs Ther.* 2021;63:10-14. Postma DF, van Werkoven CH, van Eldin LJ, et al; CAP-START Study Group. Antibiotic treatment strategies for community acquired pneumonia in adults. *N Engl J Med.* 2015;372:1312-1323.)

14. What tests are best for the diagnosis of COVID-19 infection?

The 2 key diagnostic tests for COVID-19 infection are detecting antigen in nasopharyngeal washings or saliva by nucleic acid amplification tests and identifying ground-glass opacities on computed tomography imaging of the chest. (Berlin DA, Gulick RM, Martinez FJ. Severe Covid-19. *N Engl J Med.* 2020;383:2451-2460.)

15. What is the most appropriate treatment for a pregnant woman who is moderately to severely ill with COVID-19 infection?

Moderately to severely ill pregnant women with COVID-19 infection should be hospitalized and treated with supplementary oxygen, remdesivir, and dexamethasone. Other possible therapies include inhaled nitric oxide, baricitinib (a Janus kinase inhibitor), and tocilizumab (an anti-interleukin 6 receptor antibody). (RECOVERY Collaborative Group; Horby P, Lim WS, Emberson JR, et al. Dexamethasone in hospitalized patients with COVID-19. *N Engl J Med.* 2021;384:693-704. Kalil AC, Patterson TF, Mehta AK, et al; ACTT-2 Study Group. Baricitinib plus remdesivir for hospitalized adults with COVID-19. *N Engl J Med.* 2021;384:795-807. Berlin DA, Gulick RM, Martinez FJ, et al. Severe COVID-19. *N Engl J Med.* 2020;383:2451-2460.)

16. What is the best test for the diagnosis of acute hepatitis A infection?

The single best test for the diagnosis of acute hepatitis A infection is detection of immunoglobulin M (IgM)-specific antibody to the virus.

17. What are the best tests for identification of a patient with chronic hepatitis B infection?

Patients with chronic hepatitis B infection typically test positive for the hepatitis B surface antigen (HBsAg) and for IgG antibody to the hepatitis B core antigen (HBcAg). In addition, they also may test positive for the hepatitis B e antigen (HBeAg), and their viral

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load can be quantified by polymerase chain reaction (PCR) when significant antigenemia is present. The presence of the e antigen indicates a high rate of viral replication and a corresponding high rate of infectivity.

18. What antenatal treatment is indicated in a pregnant woman at 28 weeks' gestation who has a hepatitis B viral load of 2 million copies/mL?

This patient has a markedly elevated viral load and is at significantly increased risk of transmitting hepatitis B infection to her neonate even if the infant receives hepatitis B immune globulin immediately after birth and quickly begins the hepatitis B vaccine series. Daily antenatal treatment with tenofovir (300 mg daily) from 28 weeks until delivery will significantly reduce the risk of perinatal transmission.

19. Should a postpartum patient with chronic hepatitis C infection be discouraged from breastfeeding her infant?

Hepatitis C is not a contraindication to breastfeeding. Although the virus has been identified in breast milk, the risk of transmission to the infant is exceedingly low.

20. What are the principal microorganisms that cause puerperal mastitis?

Staphylococci and *Streptococcus viridans* are the 2 dominant microorganisms that cause puerperal mastitis. For the initial treatment of mastitis, the drug of choice is dicloxacillin sodium (500 mg orally every 6 to 8 hours for 7 to 10 days). If the patient has a mild allergy to penicillin, cephalexin (500 mg orally every 6 to 8 hours for 7 to 10 days) is an appropriate alternative. If the allergy to penicillin is severe or if methicillin-resistant *Staphylococcus aureus* (MRSA) infection is suspected, either clindamycin (300 mg orally twice daily for 7 to 10 days) or trimethoprim-sulfamethoxazole double strength orally twice daily for 7 to 10 days should be used. ●

References

1. Duff P. Maternal and perinatal infections: bacterial. In: Landon MB, Galan HL, Jauniaux ERM, et al. *Gabbe's Obstetrics: Normal and Problem Pregnancies*. 8th ed. Elsevier; 2021:1124-1146.
2. Duff P. Maternal and fetal infections. In: Resnik R, Lockwood CJ, Moore TJ, et al. *Creasy & Resnik's Maternal-Fetal Medicine: Principles and Practice*. 8th ed. Elsevier; 2019:862-919.