Ocular Prophylaxis for Gonococcal Ophthalmia Neonatorum

JENNIFER CROSWELL, MD, MPH, Medical Officer, U.S. Preventive Services Task Force Program, Agency for Healthcare Research and Quality

YI-NING CHENG, MD, MPH, General Preventive Medicine Residency, Johns Hopkins Bloomberg School of Public Health

Case Study
You are called to an emergent but uncomplicated spontaneous vaginal delivery at 38 weeks’ gestation. The mother is 19 years of age, with a history of heroin use and multiple sex partners. She has not received medical care for the past few years.

Case Study Questions

1. According to the U.S. Preventive Services Task Force (USPSTF), what is the primary indication for providing this newborn with prophylaxis for gonococcal ophthalmia neonatorum?
   - A. Lack of prenatal care.
   - B. Maternal risk of sexually transmitted infection.
   - C. Maternal history of heroin use.
   - D. Maternal age.
   - E. All newborns should receive prophylaxis for gonococcal ophthalmia neonatorum.

2. Which one of the following ocular regimens is approved by the U.S. Food and Drug Administration for the prevention of gonococcal ophthalmia neonatorum?
   - A. Erythromycin 0.5% ophthalmic ointment.
   - B. Tetracycline 1.0% ophthalmic ointment.
   - C. Silver nitrate 1.0% drops.
   - D. Ciprofloxacin 0.3% solution.
   - E. Povidone-iodine 2.5% solution.

3. What are the potential complications of untreated gonococcal ophthalmia neonatorum?
   - A. Ocular perforation.
   - B. Amblyopia.
   - C. Corneal scarring.
   - D. Blindness.

Answers appear on the following page.
Putting Prevention into Practice

Answers

1. The correct answer is E. The USPSTF recommends universal prophylaxis for gonococcal ophthalmia neonatorum in newborns. There is high certainty that the net benefit is substantial. There is convincing evidence that blindness due to gonococcal ophthalmia neonatorum has become rare in the United States since the implementation of universal prophylaxis, and that universal prophylaxis of newborns is not associated with serious harms. Some newborns are at increased risk of gonococcal ophthalmia neonatorum, including those with a maternal history of sexually transmitted infections, substance abuse, or lack of prenatal care. Maternal age is not an independent risk factor.

2. The correct answer is A. Prophylactic regimens using tetracycline 1.0% or erythromycin 0.5% ophthalmic ointment are equally effective in the prevention of gonococcal ophthalmia neonatorum; however, the only drug approved by the U.S. Food and Drug Administration for this indication is erythromycin 0.5% ophthalmic ointment. Prophylaxis should be provided within 24 hours after birth. Tetracycline ophthalmic ointment and silver nitrate drops are no longer available in the United States. Ciprofloxacin is not indicated for the treatment of gonococcal ophthalmia neonatorum. A 2.5% solution of povidone-iodine may be useful in preventing ophthalmia neonatorum, but it has not been approved for use in the United States.

3. The correct answers are A, C, and D. Gonococcal ophthalmia neonatorum develops in approximately 28 percent of newborns delivered to women with gonorrhea in the United States. Identifying and treating the infection are important because gonococcal ophthalmia neonatorum can result in corneal scarring, ocular perforation, and blindness. Amblyopia is not associated with gonococcal ophthalmia neonatorum.

Author disclosure: No relevant financial affiliations to disclose.

SOURCES
