Prophylaxis and Treatment of Neonatal Gonococcal Infections

The Center for Disease Control (CDC), after consultation with a panel of experts, has revised its recommendations for prevention of gonococcal ophthalmia neonatorum. These recommendations now state, "ophthalmic ointment or drops containing tetracycline or erythromycin or a 1% silver nitrate solution" are effective and acceptable.1-3 This is a change from previous recommendations which highlighted silver nitrate as the primary agent for prophylaxis.4 The American Academy of Pediatrics' committees support these recommendations.

The prevalence of largely asymptomatic genital gonococcal infection in pregnant women and the occurrence of gonococcal ophthalmia in untreated infants (estimated at 28%)5 born to infected women indicate the need for continued prophylaxis for all newborn infants.

Some clinicians have argued that silver nitrate prophylaxis immediately after delivery may, in theory, impair maternal-infant bonding by reducing eye contact.6,7 Although it is well-known that silver nitrate, with or without subsequent flushing, results in a high frequency of chemical conjunctivitis,6,8 other agents, particularly ointments, may also impair vision temporarily and affect the appearance of the infant.

In view of the available information about the prophylaxis of gonococcal ophthalmia neonatorum and treatment of infected infants, the American Academy of Pediatrics makes the following recommendations:

1. A 1% silver nitrate solution in single-dose ampules or single-use tubes of an ophthalmic ointment containing 1% tetracycline or 0.5% erythromycin are effective and acceptable regimens for prophylaxis of gonococcal ophthalmia neonatorum.

2. None of the agents used for prophylaxis should be flushed from the eye following instillation. Critical studies have not evaluated the efficacy of silver nitrate prophylaxis with and without flushing, but anecdotal reports suggest that flushing may reduce the efficacy of prophylaxis. In addition, flushing probably does not reduce the incidence of chemical conjunctivitis.5

3. Prophylaxis should be given shortly after birth. No studies have evaluated the effect of delaying prophylaxis on its efficacy. Some authors suggest prophylaxis may be administered more effectively in the nursery than in the delivery room.10 Although definitive data are not available, delaying prophylaxis for up to one hour after birth probably will not affect efficacy and should facilitate initial maternal-infant attachment. Hospitals in which prophylaxis is delayed should establish a check system to ensure that all infants are treated.

4. Infants born by cesarean section should also receive prophylaxis against gonococcal ophthalmia. Although gonococcal infection is usually transmitted during passage through the birth canal, ascending infection also occurs. However, the precise risk of gonococcal infection in untreated infants born by cesarean section has not been determined.

5. Most infants born to mothers with clinically apparent gonorrhea are prevented from developing gonococcal ophthalmia with current modes of prophylaxis. However, an occasional case of gonorrheal ophthalmia may occur in such infants.5,11-13 Therefore, intravenous or intramuscular aqueous crystalline penicillin G should be administered to these infants. A single dose of 50,000 units for term or 20,000 units for low-birth-weight infants is rec-
ommended. Topical prophylaxis alone is inadequate for these infants.

6. Infants with clinical evidence of ophthalmia or complicated (disseminated) gonococcal infection should be hospitalized under isolation and treated appropriately. Because gonococcal ophthalmia is highly contagious, infected infants must be managed with either wound and skin precautions or secretion precautions for 24 hours after initiation of treatment with aqueous crystalline penicillin G, 50,000 units/kg body weight daily in two doses intravenously for seven days. The eyes should be irrigated with saline. Topical antibiotics are superfluous when appropriate systemic antibiotic therapy is given. Ophthalmologic consultation is suggested. Infants with extraocular gonococcal infections such as arthritis or septicemia, should be treated with aqueous crystalline penicillin G, 75,000 to 100,000 units/kg body weight daily in two to three doses intravenously for seven days. Infants with gonococcal meningitis should also be treated with aqueous crystalline penicillin G, 100,000 units/kg body weight daily in three to four doses intravenously for at least ten days. Note: The emergence of strains of Neisseria gonorrhoeae resistant to penicillin must be recognized. Attempts should be made to isolate the organism from the mother and the child so antibiotic sensitivity can be determined. If other forms of antimicrobial therapy become necessary because of a poor clinical response to penicillin, these sensitivities would be available as a therapeutic guide.

7. Gonococcal infections in pregnant women, even though they are asymptomatic, may be associated with fetal wastage, early and prolonged rupture of membranes, premature labor, and delivery of low-birth-weight infants. They also may result in sepsis or scalp abscess if intrauterine fetal monitoring is used. Failure to treat an infected woman before or at the time of delivery may result in transmission of gonococcal infection postnatally to infants who escape infection at delivery.

COMMITTEE ON DRUGS
Sydney Segal, MD, Chairman
Walter B. Anyan, Jr, MD
Reba M. Hill, MD
Ralph E. Kauffman, MD
Howard Mofenson, MD
Albert W. Pruitt, MD
Henry R. Shinefield, MD
Harvey S. Singer, MD
Miles M. Weinberger, MD

COMMITTEE ON FETUS AND NEWBORN
Alfred W. Brann, MD, Chairman
Robert T. Hall, MD
Rita G. Harper, MD
George A. Little, MD
M. Jeffrey Maisels, MD
George H. McCracken, MD
Ronald Poland, MD
Philip Sunshine, MD
John A. Whittinghill, MD

COMMITTEE ON INFECTIOUS DISEASES
Edward A. Mortimer, Jr, MD, Chairman
Vincent A. Fulginiti, MD
Philip A. Brunell, MD
Ernesto Calderon, MD
James D. Cherry, MD
Walton L. Ector, MD
Anne A. Gershon, MD
Samuel P. Gotoff, MD
Walter T. Hughes, Jr, MD
Georges Peter, MD

REFERENCES
15. Isolation Techniques for Use in Hospitals, ed 2. DHEW Publication No (CDC) 78-8314. Center for Disease Control 1978