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Silver Nitrate Prophylaxis for Gonococcal Ophthalmia Neonatorum

The National Society for the Prevention of Blindness and the American Academy of Pediatrics have stated in recent years that infants' eyes should **not** be irrigated after instillation of 1% silver nitrate (AgNO_3). The package insert from the drug manufacturer also states that irrigation (usually done with normal saline or distilled water) is not recommended.

The chemical conjunctivitis caused by AgNO_3 drops is self-limiting, usually resolving within 24-48 hours. It is less severe if the drops are stored in individual wax ampules. This procedure minimizes evaporation, which would increase the concentration of the solution.

CDC's gonorrhea treatment recommendations include the use of AgNO_3 without saline rinse for all newborn infants. AgNO_3 prophylaxis appears to be more effective in preventing gonococcal ophthalmia neonatorum (GC-ON) than saline eye washings or no prophylaxis. AgNO_3 prophylaxis is not 100% effective, however, as shown in 1 study of 46 cases of gonococcal ophthalmia which occurred in spite of some form of AgNO_3 prophylaxis. Nevertheless, according to the study the risk of GC-ON developing in an infant born to an infected mother was less than 2% when AgNO_3 was used.

The occurrence of GC-ON in spite of the use of AgNO_3 may be caused by several factors: (1) improper application, (2) washing with water or saline, (3) silver cation precipitation by saline to form silver chloride crystals, (4) infection of the eyes before delivery because of premature rupture of the membranes in an infected woman, and (5) failure to treat an infected mother with subsequent transmission to her infant after the delivery.

Well-designed studies are needed to investigate other preparations which may be useful as prophylaxis against GC-ON. Other possibly effective agents have either not been adequately studied (tetracycline and erythromycin), are less effective (bacitracin), or have serious adverse effects, such as sensitization (penicillin). The possibility of infection with a penicillinase-producing gonococcus also exists.

In addition to proper instillation of AgNO_3 without rinsing, other measures are essential in preventing GC-ON, including: (1) prenatal screening of pregnant women at their initial visits and before delivery, (2) appropriate evaluation of all neonatal conjunctival discharges with Gram stain and culture, and (3) continuing education for obstetric and pediatric personnel who will be required to diagnose and manage this complication.

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