



Chlamydia is the most common sexually transmitted disease in developed countries (Yang, et al., 1991). An estimated 1% to 5% of all women in the United States have genital chlamydia, with rates as high as 75% in high-risk groups. Chlamydia and gonorrhea are coexisting infections in 30% to 50% of those tested. Tests for syphilis (VDRL and FTA-ABS) are also recommended.

There are 15 types of *C. trachomatis*. Types D, E, F, G, H, I, J and K cause eye and genital infections. Symptoms may not be present until infection is widespread and damage considerable. Chlamydia causes 20% to 35% of all acute salpingitis, a form of pelvic inflammatory disease (PID). It leaves 15% to 20% of those affected infertile. Infection is easily carried into the uterus during invasive obstetrical or gynecological procedures as well as postpartum (although surgical birth, per se does not seem to increase the risk), since the organism lives in the cell lining of the inner cervical canal.

About 20% of all adults have antichlamydial antibodies in their system. Blood tests cannot distinguish past from current infections; therefore the diagnostic tool of choice has been a tissue or cellular culture. Cultures are accurate only 80% to 90% of the time, are difficult to preserve and hard to perform even under the most optimal circumstances.

The newborn of a mother with an untreated infection has a 23% to 70% chance of becoming infected during the birth process (McGregor, 1991). Of those newborns contracting chlamydia at birth, 30% to 50% will develop conjunctivitis 3 to 20 days after birth. Neonatal eye prophylaxis is recommended to prevent chlamydial as well as gonorrheal infections. Erythromycin, tetracycline and silver nitrate do not provide adequate protection against chlamydial conjunctivitis. A Kenyan study (Isenberg, et al., 1995) showed that 2.5% povidone iodine was more effective than 1% silver nitrate or 0.5% erythromycin ointment. Azithromycin has proven effective in adult eye infections, and may be useful for prophylaxis of pregnant women or their newborns. Truly effective topical prophylaxis is not currently available. (Chandler, 1989).

Symptoms of an eye infection include a mucopurulent discharge, swelling and redness of the eyelids. Blindness may result from untreated eye infections. Topical treatments can be ineffective for an active infection, in these cases; oral erythromycin is the drug of choice (McGregor, 1991). Pneumonia occurs in 10% to 20% of exposed newborns. Topical eye prophylaxis does not prevent chlamydial pneumonia or other respiratory complications (McGregor, 1991). About 10% of babies born through an infected cervix develop pneumonia between 5 days to 6 months of age. Many of these will have had conjunctivitis. Chlamydia has also been implicated as a cause of ear infection, bronchitis, vulval, rectal and intestinal infection in infants.

Gonorrhea is usually spread by sexual contact with infected mucus membranes. 80% of all women are asymptomatic, with the bacteria residing in the endocervix. Prolonged infection can lead to scar tissue in the reproductive organs and permanent sterility. If present vaginally at birth it can lead to blindness or more rarely, a systemic infection in those newborns exposed.

Routine cultures should be performed early in pregnancy. Infection impacts pregnancy in various ways. Gonococcal cervicitis and septic spontaneous miscarriage may occur or infection may develop after induced abortion. Preterm birth, premature rupture of membranes, chorioamnionitis and postpartum infection are all more common in women infected near the time of birth.

A microscopic examination of a smear from the penile discharge is quite accurate for men, but vaginal smears are not very accurate for women (45% to 65% sensitivity). When infection is suspected or the woman is high-risk for exposure, specimens from the blood, endocervix, throat and rectum should be taken for culture as well. If positive, the culture can be used to determine if the gonorrhea strain is penicillin resistant. Very rarely, the bacteria are enclosed in a cyst-like formation in the vagina that ruptures at the time of birth. Such encapsulations make detection from routine cultures impossible.

Silver nitrate 1% has been widely used to protect the baby's eyes from gonorrhea infection. Prophylactic treatment began around the turn of the century; this one-time eye treatment was used to protect potentially exposed infants from permanent blindness. Prophylaxis has continued because of the difficulty in determining infection in the mother.

Silver nitrate causes a chemical inflammation of the eyelids and burns the corneal surface slightly as it penetrates to kill bacteria. There are several alternatives to silver nitrate treatment, but their effectiveness is controversial. One is rinsing the newborn's eyes with sterile water immediately after birth and watching closely for signs of infection, treating only if infection is suspected. Erythromycin 0.5% and tetracycline 1% are the ointments approved as silver nitrate substitutes by the American Academy of Pediatrics. Silver nitrate and tetracycline markedly reduce infection from gonorrhea, but have proven to provide minimal protection from chlamydia. Erythromycin appears to be almost as effective but has not been studied as thoroughly. (Cunningham, 1997)

For those who have never been infected and/or do not want treatment for their babies, watch the baby's eyes for redness, discharge and swelling.

If infection is suspected prophylactic treatment should be administered immediately after birth. If the parents simply want to comply with the law, administration within 2 to 4 hours of birth is fine. In cases of prolonged prelabor rupture of membranes treat the eyes as soon as possible.

Treatment can be administered if desired, by the midwives with Erythromycin 0.5%, as a prescription obtained prior to birth, from your pediatrician.