Prenatal-onset Group B Strep (POGBS) Disease

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Prenatal-onset Group B Strep (POGBS) Disease: Giving a Name to Group B Strep Disease Acquired before Birth and Four Courses of Action to Help in Its Prevention

Group B strep (GBS) can definitely infect babies before birth, yet there is not an official name designated for GBS disease when it causes babies to be miscarried or stillborn. To further awareness and prevention of GBS disease in all stages of a baby’s development, Group B Strep International is giving a name to GBS disease acquired before birth: Prenatal-onset Group B Strep (POGBS) Disease.

Most medical literature mentions only two types of GBS disease: early-onset and late-onset. The majority of known GBS infections in newborns occurs in the first week of life. These GBS infections are designated as early-onset GBS (EOGBS) disease. So far the primary focus of GBS disease prevention has been treating GBS positive women during labor so that their babies do not become infected during passage through the birth canal. Currently both the United States and Canada have active prevention guidelines in place to test all pregnant women at 35-37 weeks of pregnancy and, if positive, treat them with IV antibiotics during labor. These guidelines have been very successful in reducing the rate of early-onset infection by more than half from 0.7 cases per 1000 live births in the U.S. in 1997 to 0.32 cases per 1000 live births in the U.S. in 2004.¹

Currently the secondary focus of GBS disease prevention is late-onset GBS (LOGBS) disease which occurs in infants over 1 week of age usually up to the first three, but sometimes even six months of life. LOGBS can be caused by sources other than the mother, including hospital personnel. Prevention consists mainly of promoting thorough hand washing prior to anyone handling the baby and breastfeeding to give the baby important antibodies. Recognizing symptoms of GBS infection can result in better outcomes for the baby if prompt medical treatment is initiated.

However, a baby can definitely succumb to GBS infections long before the bacteria are transmitted during delivery. Since this is not yet a recognized disease it is unknown how many babies have been miscarried or stillborn due to GBS. Pathology testing is not mandatory and not even always suggested to the mother. At minimum, placental culturing may tell the cause of death. This is important especially since having a baby infected by GBS puts a mother at higher risk for subsequent babies being infected by GBS.

Perhaps the reason that prenatal-onset GBS disease has not been officially recognized is that the general medical opinion considers GBS-caused miscarriages and stillbirths to be rare occurrences. However, among GBS awareness groups, there are far too many parents who have had their baby’s autopsy or placental testing report cite GBS as the cause of death for prenatal-onset GBS disease to continue being regarded as rare.

Fortunately there are at least four main courses of action to help prevent prenatal-onset GBS disease:

1. **Increase awareness among care providers, pregnant women, and their families as to how invasive procedures can cause GBS to cross even intact amniotic membranes.** The August 16, 2002 CDC MMWR specifically states that GBS can cross intact amniotic membranes.²

   GBS germs can travel or be transported into the womb by digital exams even early in pregnancy. GBS microorganisms have special attractant molecules that can take hold of genital tract tissues. These microorganisms also have special molecules that can dissolve through the mucus plug.³ GBS can then penetrate membranes and infect the baby or
damage the placenta\(^4\) which eventually results in miscarriage or early pregnancy stillbirth. Later in pregnancy, GBS may be introduced to the baby during routine cervical checks and other invasive procedures such as intraterine fetal monitoring, application of cervical ripening medications, and “membrane stripping” sometimes known as “membrane sweeping.”

The benefits of invasive procedures may outweigh the risks, but other times invasive procedures are merely used for convenience or as part of routine examinations. Perineal and vaginal ultrasounds offer an alternative to digital examination.

Membrane stripping can introduce infection\(^5\) although there is a debate about whether or not it is directly related to a higher incidence of GBS infection. However, it has been proven via dye tests that small particles can ascend through the cervix. Case studies of dead or very sick babies at birth point to a direct correlation. Common sense alone dictates that if a gloved hand or instrument is moved through the lower third of the vagina (where GBS usually colonizes) and then up into the cervix that GBS or other bacteria can be moved closer to where the baby can be harmed. A recent legal case examines the potential for litigation regarding membrane stripping.\(^6\)

2. **Ensure prompt attention to vaginal and urinary tract infections during pregnancy.** Even though health care providers do not widely recognize GBS vaginitis, GBS can cause yellow or green discharge as well as vaginal burning and/or irritation. These symptoms may be mistaken for a yeast infection or bacterial vaginosis. Vaginal and bladder infections caused by GBS have been linked to preterm births and can indicate a heavy amount of GBS colonization that can potentially harm the baby.\(^7\)

Pregnant women should be promptly evaluated and treated appropriately for any symptoms of vaginitis. “Tests of cure” should be routine. Extreme caution should be used regarding any invasive procedures in a woman experiencing symptoms of vaginitis.

3. **Periodic urine cultures for GBS should be performed during pregnancy.** The presence of GBS bacteriuria in any concentration in a pregnant woman is a marker for heavy genital tract colonization and possibly absent maternal immunity which can put the baby at greater risk. These women do not need vaginal and rectal screening at 35-37 weeks.

The CDC recommends that women with any quantity of GBS bacteriuria during pregnancy should receive intrapartum chemoprophylaxis. The CDC also recommends that women with urinary tract infections, both symptomatic and asymptomatic, receive appropriate treatment at time of diagnosis according to the current standard of care for UTI’s in pregnancy.\(^2\) In addition to intrapartum chemoprophylaxis, parent-based groups advocate treatment at time of diagnosis as well as a recheck for any quantity of bacteriuria to further protect the baby. ACOG recommends that a urine culture be performed at the first prenatal visit as well as in the third trimester (28-40 weeks).\(^8\) Testing urine more frequently may be prudent.

4. **Consider treating GBS positive women with intramuscular benzathine penicillin G in the late third trimester. (Alternatives for this treatment for penicillin allergic women are not yet reported.)** Although this strategy is not currently a CDC or ACOG recommendation, two studies have shown that treating GBS positive women with 4.8 million units of intramuscular benzathine penicillin G eradicates or significantly reduces their GBS colonization at delivery when given in the late third trimester.\(^9,10\) This treatment appears to be effective for at least 4 weeks after injection.\(^10\) Another more recent study using 2.4 million units of intramuscular benzathine penicillin G suspension (Bicillin L-A) in the late third trimester showed a smaller yet still significant decrease in the rate of GBS colonization upon admission to labor and delivery.\(^11\)

Two of the studies noted in their conclusions that their respective treatments may be useful as a supplement for women who are at risk for not receiving the appropriate amount of intrapartum antibiotic prophylaxis against GBS.\(^9,11\)
Current protocol actively addresses early-onset prevention. However, prevention of prenatal-onset GBS and recognition of symptoms of GBS infection in babies once born can further reduce the effects of GBS disease in babies before and after birth. For symptoms including fever, lethargy, and any kind of distress in the baby, please visit [http://www.groupbstrepinternational.org/brochure.html](http://www.groupbstrepinternational.org/brochure.html). GBS information is available in both English and Spanish.

**References:**
Group B Strep International (GBSI) is an organization formed to promote awareness and prevention of Group B Strep disease worldwide. To further these efforts GBSI is sponsoring International Group B Strep Awareness Month in July as an official observance on the 2007 National Health Observance Calendar.

Please join us at [www.groupbstrepinternational.org](http://www.groupbstrepinternational.org) in the fight against GBS disease before and after birth.

Your comments and feedback are appreciated. Please feel free to e-mail us at info@gbs-intl.org

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