Group B Streptococcal Disease in the Newborn

What is Group B Strept (GBS) Disease?
Group B Streptococcus is a bacteria that can cause invasive disease in infants, pregnant or postpartum women and older adults. The highest incidence occurs in infants.

Why is GBS so dangerous to newborns?
This GBS bacterium can lead to life-threatening conditions in newborns such as septicemia, pneumonia and meningitis.

When can this disease show up in infants?
• It can show up within the first week of life. This is called Early Onset GBS Disease and can be apparent at the time of a newborn’s delivery. A larger percent are newborns will develop complications within the first 48 hours of life.
• If a newborn is diagnosed with this disease between the ages of 1 week and 3 months of life it is called Late Onset GBS Disease.
• “Early-Onset” GBS Disease is the leading cause of morbidity and mortality of newborn infants in the U.S.

What are the signs and symptoms of GBS Disease?
• Respiratory distress (difficulty breathing), apnea, pneumonia, and/or other signs of sepsis (infection), which occurs in the first 24 to 48 hours of a newborn’s life.

How does a baby get GBS from its mom?
• Most babies contract the GBS organism at the time of delivery after the rupture of the mother’s membranes. However, this infection can also be contracted while in the mother’s uterus (called an in-utero infection) before the membranes have ruptured.
• Newborns acquire GBS vertically (up and down) from a mother’s vagina that has been colonized. Colonized means the GBS bacterium has settled in the warm environment of the vagina. The bacteria ascend from the vagina to the amniotic fluid after the onset of labor, rupture of membranes, or passage through the birth canal. It can also be aspirated into the fetal lungs at delivery.
• The degree to which the newborn develops more serious complications may depend on three things: the extent of the maternal colonization, the quality of the maternal immune response to the organism and the gestational age of the baby.

What are the risk factors for the GBS Disease?
• The number one risk is GBS colonization in a pregnant woman’s vagina, rectum or urine.
• Approximately 10-30% of pregnant women are colonized with GBS in the vagina or rectum. If it is found in a clean-catch urine specimen in any trimester, there can be heavy maternal colonization which increases the risk for Early Onset Disease in the newborn.
• Approximately 1 out of 4 pregnant women can have this GBS bacterium in her vaginal fluid.

• Other risk factors include: infants who are less than 37 weeks gestation, if the membranes have been ruptured for a long period of time (18 hours or greater), presence of an intra-amniotic infection, young maternal age and African-American ethnicity.

• A previous delivery of an infant who acquired the invasive GBS Disease is another risk factor for subsequent deliveries.

How can GBS Disease in the newborn be prevented?

• Through administration of IV antibiotics to the pregnant woman prior to delivery. This is a prophylactic (preventative) measure.

• The primary antibiotic of choice is Penicillin and Ampicillin. If a mother has a PCN allergy alternative antibiotics are: Cefazolin, Clindamycin, Erythromycin and Vancomycin.

• For GBS prophylaxis, it is recommended to administer the doctor’s choice of antibiotics at least 4 hours or greater prior to delivery. Studies have found this method to be highly effective in preventing the vertical transmission of the GBS organism to the baby and subsequent development of the GBS Disease in the newborn.