

What Can We Currently Do to Help Prevent Prenatal-onset Group B Strep Disease?

James A. McGregor^{1,2}
Martti Perhach¹

1) Group B Strep International
2) LA Best Babies Network

Background

There are currently no health agency-based protocols to prevent prenatal-onset group B strep disease.


Objective

To explore what current knowledge-based strategies are available to help prevent POGBSD

Methods

1) We explored available medical literature through internet searches (Medline, PubMed, Google) such as: group b strep bacteriuria, vaginitis, cervical exam, membrane stripping, infection, fetal movement, etc.

2) We analyzed parent stories sent in to Group B Strep International as to what they felt would have made the difference in their baby's outcome.




Results

1) We identified several knowledge-based strategies, such as

- a) treating GBS-caused urinary tract infections.
- b) identifying and appropriately treating GBS-caused vaginitis and
- c) using caution regarding invasive procedures that may increase the risk of ascending group B strep infections.

2) A common theme among parents was being uninformed about the signs and symptoms of

- a) GBS infection in unborn babies and
- b) preterm labor.




Preterm Labor Signs & Symptoms

Pregnant women should know the the warning signs and symptoms of preterm labor and what to do if they experience any of them!

GBS can cause preterm labor and preterm premature rupture of membranes.

Pregnant women should know to contact their provider when their water breaks.

- Water breaks
- More vaginal discharge than usual or vaginal discharge changes
- Vaginal bleeding
- Increased pressure in pelvis or vagina
- Cramping in lower abdomen or period-like cramps
- Nausea, vomiting, or diarrhea
- Dull lower backache
- Regular or frequent contractions




Preterm Labor

"I began to feel a lot of pressure in my pelvis. I also had a lot of cramping.

A few weeks passed and the cramps turned into very uncomfortable contractions. I couldn't walk more than half a block, stand longer than five minutes, or ride in a car without making them worse. I tried everything they say to calm the contractions but nothing worked. I had them even when sitting or laying down doing absolutely nothing. I was physically and emotionally miserable. I brought up my concerns multiple times with my doctor and her nurse and was brushed off every time. I was told the contractions were normal, despite everything I was reading from reputable websites saying they weren't, at least not in the intensity and high number I was experiencing.

I asked for a referral to a specialist and my doctor shut me down saying, "a specialist isn't going to do anything for you." They refused to even do an ultrasound to check on our baby or to make sure my cervix wasn't dilating. I was terrified constantly that I was in preterm labor. My doctor's nurse told me that preterm labor doesn't happen until the third trimester so I had nothing to worry about. I knew that was not true."

- Amy, mother of Elijah who was stillborn at 22 weeks gestation



Urine Culturing


Have the patient/provider conversation about the significance of urine culturing early in pregnancy.

Providers should prescribe oral antibiotics at the time of diagnosis for significant levels of GBS in urine.

GBSI advocates a recheck or "test of cure" one month after treatment.

"GBS bacteriuria in a pregnant woman is a marker for heavy genital tract colonization..."
CDC MMWR 2010


"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."
McGregor, James A., Infection and prematurity: the evidence is in. Medical Tribune Opinion, Feb. 4, 1997.



Urine Culturing

"I tested positive for GBS in my urine early in my pregnancy with Leah. My doctor ordered antibiotics, however, the nurse didn't call them in and they never said anything to me about the urine culture results. When I found out about this after Leah died, the doctor said she didn't know if me receiving the antibiotics would have changed the outcome. But, I deserved to know and be able to advocate for my care and agree to receiving or not receiving antibiotics."

-Bevin



Vaginitis

Have a patient/provider conversation about vaginitis.

GBS can cause:


- Vaginal burning
- Vaginal irritation
- Unusual discharge

Patients should know to see their provider promptly for an exam and possible GBS testing if they experience any vaginitis symptoms.

These symptoms may be mistaken for a yeast infection and treated incorrectly.

"These data suggest that *S. agalactiae* in symptomatic women with microscopic evidence of inflammation should be considered a causative agent of vaginitis."

Maniatis AN, et al. Streptococcus agalactiae: a vaginal pathogen? J Med Microbiol. 1996 Mar;44(3):199-202.



Vaginitis

"Fortunately I had already been cultured during my 24th week of pregnancy due to an unusual vaginal discharge. Since my GBS culture was positive, I was put on oral antibiotics once the results were back. However, at 26 weeks, Group B strep caused me to go into preterm labor. My daughter spent 75 days in the NICU."

- Bobbi, GBS mother of Carissa who fortunately survived

"I went to the ER complaining of clear fluid leakage. The nurse ran a swab test and told me I was clear and that I had an infection and she would get the doctor. About 30 minutes later she came in and told me I had a yeast infection and to go buy yeast infection medication over the counter. I told her that I had no symptoms of a yeast infection, I was never seen by a doctor nor did the nurse run a culture to make sure it was a yeast infection."

- Gaby, GBS mother of Jalen who was stillborn due to GBS



Fetal Movement

Have a patient/provider conversation about the importance of fetal movement tracking.

Make sure patients know what to do if they experience:

- low fetal movement
- no fetal movement
- frenzied fetal movement


Talk to patients about how to tell the difference between fetal movement and uterine contractions

"Uterine contractions can be interpreted as fetal movement."

Anders Linde RNM, MD Women's Experiences of Fetal Movements before the Confirmation of Fetal Death—Contractions Misinterpreted as Fetal Movement 23 February 2015 Birth Issues in Perinatal Care

"...a sudden increase of fetal movements is a sign of acute fetal distress."


Sadovsky E, Polshuk WZ. Fetal movements in utero: nature, assessment, prognostic value, timing of delivery. Obstet Gynecol. 1977 Jul; 50(1):49-55.



Fetal Movement

"When I went in at 17 weeks he had died. He was kicking like crazy the day before."
- Braiden's mother

"Less than two weeks after I finished the antibiotics I suddenly stopped feeling my son move. He was an extremely active baby. I had felt him every day since 17 weeks so I knew something was very wrong when I didn't feel him for 24 hours."
- Elijah's mother




Maternal Fever

Have a patient/ provider discussion about maternal fever

Patients should know to contact their provider immediately in regards to any fever over 100°F

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Having a fever during labor is an increased risk for having a baby who develops early-onset GBS disease.
<https://www.cdc.gov/groupbstrep/about/transmission-risks.html>




Maternal Fever

"That night we were hanging out with some friends and I felt my belly tightening. I assumed it was just Braxton Hicks. We went to get something to eat and brought it home. I barely had two bites and I vomited and said I didn't feel good. My boyfriend took my temp and I was at 101.

We called the doctor and he said it sounded like I had a bug and he didn't want me to come in and get the other women and babies sick. So we waited. I started cramping really bad about 12:30 am. I felt like maybe I just had bad gas. Doctor told me to take some Tylenol and drink lots of water. I could not keep any of it down.

About 4:30 am I realized I was in labor. My boyfriend took me to the hospital where they hooked me up to a monitor and could not find a heartbeat." - Lincoln's mother at 27 weeks gestation



Invasive Procedures

Have a patient/provider discussion about which cervical exams are really necessary.

Knowing how far a woman is dilated does not accurately predict when her baby will be born.


Vaginal or perineal ultrasounds are less invasive options

"There is no clearly established means for the prevention of IA, but cervical examinations and cervical manipulation can increase the risk, so caution with their use is still warranted."

Riggr, J.W, Blanco J.D. Pathophysiology, diagnosis, and management of intraamniotic infection. Semin Perinatol. 22(4):251-9. 1998.

"An immediate effect of digital examination is the introduction of vaginal organisms into the cervical canal."

Imseis HM, Trout WC, Gabbe SG. The microbiologic effect of digital cervical examination. Am J Obstet Gynecol. 180(5 Pt 1):578-80. 1999.




Invasive Procedures

Have a patient/provider discussion about the benefits vs. risks of possible methods of induction well before the due date.

GBSI advocates that written informed consent should be obtained before membrane stripping.

"...GBS can cross intact amniotic membranes." CDC 2010 MMWR


"Furthermore, the risks of membrane stripping in GBS-colonized women has not been investigated; therefore data are insufficient to encourage or discourage this practice in these women." ACOG Committee Opinion, Number 485, April 2011.



Invasive Procedures

"I was 41 weeks pregnant when the doctor decided to do an internal exam and then proceeded to strip my membranes without my permission. This was on Friday, January 30th. He said I worked my magic (with a swooping motion of his forefinger.) He then told me to go home, "have lots of sex," and wait for either labor to begin ("I started things up") or to come back Monday morning to be induced. Labor did not begin over the weekend so on Monday morning I went to the hospital to find out my precious daughter was gone."

-Hannah's mother



Conclusion

- Understanding knowledge-based strategies regarding GBS may influence pregnancy care management.
- Having patient/provider conversations about the signs and symptoms of infection and preterm labor as well as other knowledge-based strategies is a practicable way to possibly help prevent prenatal-onset GBS disease or improve its outcome.