

## **Group B Streptococcus (GBS)**

Partly adapted from Pomegranate Midwives

### **What is GBS?**

GBS is a type of bacteria that is found in the digestive and/or reproductive tract of about 20% of healthy people. Under normal circumstances it is part of the balanced system of gut flora that does not cause disease. It is not associated with bad hygiene, nor is it sexually transmitted. GBS may come and go in people's bodies, so having had it previously does not mean you have it now.

Approximately 10-35% of pregnant people will have GBS in their vaginas at the time of birth. GBS in the vagina is normal, no symptoms generally appear, and it does not usually cause any health risks to the pregnant person. Occasionally GBS can cause a urinary tract infection which needs to be treated.

### **What is the chance of a baby becoming infected with GBS?**

In the general population, GBS disease occurs in 0.5 to 2 per 1000 live births.

### **How does GBS affect the newborn?**

GBS is a significant cause of neonatal morbidity (poor health outcome) and mortality. If you have GBS in your vagina when you give birth, your baby will be exposed to it. Most of the time this is of no consequence. In fact, of those babies who are exposed only 50% will become carriers of GBS – i.e. they will have GBS on their skin or in their system.

However, about 1 in 200 babies who are exposed to GBS will develop a systemic infection. In newborns, GBS is a common cause of sepsis (infection in the blood), newborn pneumonia (infection of the lung) and meningitis (infection of the fluid around the brain), with the possibility of permanent neurological damage. Symptoms can include fever, irritability, trouble breathing or lethargy. These babies will need hospitalization and IV antibiotics. The mortality rate of early onset GBS infection (within the first 7 days of life) ranges between 5 to 20%. Babies that survive, particularly those who have meningitis, may have long-term problems such as hearing or vision loss, or learning disabilities.

Most GBS infection will be obvious at birth or within the first 24 hours, but can develop anytime within the first week. (This is called early onset GBS infection. There is also a late onset GBS disease that begins after the first week, but this is caused by transmission after birth.)

### **What are the risk factors for developing Newborn GBS Disease?**

- Preterm labour (less than 37 weeks)
- Rupture of membranes for greater than 18 hours
- Maternal fever in labour

- GBS bacteria found in the urine at any time during the pregnancy
- Bladder infection caused by GBS at any time during the pregnancy
- History of a previous baby that developed GBS disease

### **How can GBS disease in the newborn be prevented?**

The current recommendation is to screen all pregnant people for GBS colonization of the vagina between 35-37 weeks. The screening is unobtrusive and includes a vaginal-rectal swab done by the pregnant person themselves. This swab is sent to the lab to be cultured and usually takes a 2-3 days to get results. Since GBS colonization can come and go, testing within five weeks of the due date is shown to be predictive of GBS status at time of birth. There is anecdotal but not scientific evidence that taking good quality probiotics starting 3 weeks before swabbing for GBS may result in a lower chance of colonization in the vaginal area.

If the screening test is *positive*, IV antibiotics are recommended in active labour or when your water breaks. Penicillin is the antibiotic of choice, unless known penicillin allergies exist. If your water breaks before you are in labour, IV antibiotics along with induction of labour is the current standard. If the screening test is *negative*, you do not carry GBS and IV antibiotics will not be necessary.

### **What are the Benefits to being treated?**

- 1 in 500 newborns will develop GBS disease if the pregnant person has an unknown GBS culture and no antibiotics in labour are given.
- 1 in 200 newborns will develop GBS disease if the pregnant person has a known positive GBS culture and no antibiotics in labour are given
- 1 in 20 newborns will develop GBS disease if the pregnant person has a known positive GBS culture and no antibiotics are given and they have any risk factors during labour.
- 1 in 4000 newborns will develop GBS disease if the pregnant person has a known positive GBS culture and receives one dose of antibiotics before birth
- 1 in 20 000 newborns will develop GBS disease if the pregnant person has a known positive GBS culture and receives two doses of antibiotics before birth

### **What are the Risks to being treated?**

- The risk of allergic reaction to penicillin is between 4 in 10 000 and 4 in 100 000
- Exposure to antibiotics in labour has been associated with increased incidence of yeast and thrush infections in pregnant people and their babies
- Widespread use of antibiotics could lead to the presence of superbugs that are antibiotic resistant
- New evidence suggests that early exposure to antibiotics may be linked to asthma in small children.
- Having an IV inserted can be uncomfortable or painful, and the plastic IV catheter in your arm can be somewhat annoying in labor.
- Long term effects on baby of early antibiotic exposure are not fully researched.

## **Are there any alternatives to treatment with antibiotics?**

There are no other treatment alternatives that have enough data for us to know whether they are effective.

Some parents may wish to avoid antibiotics, and will request an alternative approach to treatment with antibiotics where 1) they are found to be a GBS carrier, and 2) they develop any of the risk factors mentioned above which make it ten times more likely that the baby will get sick. This approach was based on a previous standard of care before universal testing and treatment for positive status was adopted.

## **Can I still have a home birth if I am GBS positive?**

Yes, administration of antibiotics can be given at home. If you are not in active labour but your water has broken and you have declined induction of labour, you may need to go to the hospital for the first doses of antibiotics until you are in active labour and it is time for your care providers to attend you at home.

## **Can I prevent or eliminate GBS from my system?**

The best strategy is to boost your own immune system by being as healthy as you can manage. Daily exercise and nutrient-dense food is always a good idea! Additionally:

### **THROUGHOUT YOUR PREGNANCY:**

- Take a daily probiotic supplement
- Eat foods high in Vitamin C
- Eat fermented foods – a natural source of probiotics
- Minimize your refined carbs & sugars
- Keep hydrated – drink lots of water

### **FOR TWO WEEKS BEFORE YOUR TEST:**

- Minimize heavy starches (potatoes, rice, bread, etc.) or combine with proteins
- Cut out all refined sugars as well as high-sugar fruit (e.g. tropical fruit such as bananas, mangos, papaya, etc.)
- Take a daily Vitamin C supplement of 500-1000mg
- Take Echinacea tincture – 1 dropperful 1-3x/day
- Do a nightly sitz bath with 1-2 drops of Tea Tree essential oil

## **Key Points**

- GBS is a normal part of the flora in pregnant people's vaginas that comes and goes
- GBS infection of the newborn is a serious disease with high rates of morbidity and mortality
- Screening for GBS is recommended between 35-37 weeks
- If the screening result is positive, IV antibiotics are recommended in labour
- If antibiotics for prevention are declined, after reviewing the risks and benefits, an informed refusal sheet should be signed. If risk factors develop, discussing antibiotic treatment will be revisited
- It is important to watch the baby for signs of infection, or ill health including lethargy/listlessness, difficulty breathing and not wanting to feed