

Kofinas Perinatal

Providing Care to the Unborn ®

Alexander D. Kofinas, MD

Director, Kofinas Perinatal
Associate Professor, Clinical Obstetrics and Gynecology
Cornell University, College of Medicine

Introduction

Group B streptococcus (GBS) is a type of bacterium that causes illness in newborn babies, pregnant women, the elderly, and adults with other illnesses, such as diabetes or cancer. GBS is the most common cause of life-threatening infections in newborns.

How common is GBS disease?

GBS is the most common cause of sepsis (blood infection) and meningitis (infection of the fluid and lining surrounding the brain) in newborns. GBS is a frequent cause of newborn pneumonia and is more common than other, better known, newborn problems such as rubella, congenital syphilis, and spina bifida.

Approximately 8,000 babies in the United States get GBS disease each year; 5%-15% of these babies die. Babies that survive, particularly those who have meningitis, may have long-term problems, such as hearing or vision learning disabilities.

In pregnant women, GBS can cause urinary tract infections, womb infections (amnionitis, endometritis), and stillbirth. Among men and among women who are not pregnant, the most common diseases caused by GBS are blood infections, skin or soft tissue infections, and pneumonia. Approximately 20% of men and nonpregnant women with GBS disease die of the disease.

Does everyone who has GBS get sick?

Many people carry GBS in their bodies but do not become ill. These people are considered to be "colonized." Adults can be colonized in the bowel, genital tract, urinary tract, throat, or respiratory tract. Fifteen percent to 40% of pregnant women are colonized with GBS in the rectum or vagina. A fetus may become colonized with GBS on the skin if the mother is colonized with GBS in the rectum or vagina; colonization occurs before or during birth.

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Material and data obtained from the Centers for Disease Control
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How does GBS disease affect newborns?

Approximately 1%-2% of babies who are colonized with GBS develop signs and symptoms of GBS disease. Three-fourths of the cases of GBS disease among newborns occur in the first week of life ("early-onset disease"), and most of these cases are apparent a few hours after birth. Sepsis, pneumonia, and meningitis are the most common problems. Premature babies are more susceptible to GBS infection than full-term babies, but most (75%) babies who get GBS disease are full term.

GBS disease may also develop in infants 1 week to several months after birth ("late-onset disease"). Meningitis is more common with late-onset GBS disease. Only about half of late-onset GBS disease among newborns comes from a mother who is colonized with GBS; the source of infection for others with late-onset GBS disease is unknown.

How is GBS disease diagnosed and treated?

GBS disease is diagnosed when the bacterium is grown from usually sterile body fluids, such as blood or spinal fluid. Cultures take a few days to complete. GBS infections in both newborns and adults are usually treated with antibiotics (e.g., penicillin or ampicillin) given through a vein.

Can pregnant women be checked for GBS?

GBS colonization can be detected during pregnancy or just before delivery by a vaginal and rectal swab for special culture or rapid screening. Rapid screening tests are not as good at detecting the bacteria but can be completed in 30 minutes to a few hours. Physicians who culture for GBS colonization during prenatal visits should do so late in pregnancy because cultures collected before 25 weeks' gestation do not predict whether a mother will be colonized with GBS at delivery. Authorities suggest that cultures be done at 35-37 weeks' gestation, by swabbing both the vagina and rectum.

A positive culture result means that the mother is colonized with GBS -- not that she or her baby will definitely become ill. Colonized women should not be given oral antibiotics before labor because antibiotic treatment at this time does not prevent GBS disease in newborns. Whether a woman is colonized with GBS becomes important at the time of labor and delivery -- when antibiotics are effective in preventing GBS disease.

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Can GBS disease among newborns be prevented?

Most GBS disease in newborns can be prevented by giving certain pregnant women antibiotics through the vein during labor. Any pregnant woman who previously had a baby with GBS disease or who has a urinary tract infection caused by GBS should receive antibiotics during labor.

Pregnant women colonized with GBS should be offered antibiotics at the time of labor or membrane rupture. Colonized women at highest risk are those with any of the following conditions:

- Fever during labor
- Rupture of membranes 18 hours or more before delivery
- Labor or rupture of membranes before 37 weeks

Because women who are colonized with GBS but do not develop any of the above complications have a relatively low risk of delivering an infant with GBS disease, the decision to take antibiotics during labor should balance risks and benefits. Penicillin is very effective at preventing GBS disease in the newborn and is generally safe. A colonized woman with none of the conditions above has the following risks:

- a 1 in 200 chance of delivering a baby with GBS disease if no antibiotics are given
- a 1 in 10 chance, or lower, of experiencing a mild allergic reaction to penicillin (such as rash)
- a 1 in 10,000 chance of developing a severe allergic reaction -- anaphylaxis -- to penicillin. Anaphylaxis requires emergency treatment and can be life-threatening.

If a prenatal culture for GBS was not done or the results are not available, physicians may give antibiotics to women with one or more of the risk conditions listed above.

What research is being done on prevention of GBS disease?

Unfortunately, some babies still get GBS disease in spite of testing and antibiotic treatment. Vaccines to prevent GBS disease are being developed. In the future, women who are vaccinated may make antibodies that cross the placenta and protect the baby during birth and early infancy.

Who is at higher risk for GBS disease?

Pregnant women with the following conditions are at higher risk of having a baby with GBS disease:

- Previous baby with GBS disease
- Urinary tract infection due to GBS
- GBS colonization late in pregnancy

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