Invasive Group B Streptococcal Disease

Group B Streptococcus, or *Streptococcus agalactiae*, is a gram-positive bacterium that causes invasive disease primarily in infants, pregnant or postpartum women, and older adults, with the highest incidence among young infants.

Infections in newborns occurring within the first week of life are designated early-onset disease. Late-onset infections occur in infants aged >1 week, with most infections evident during the first 3 months of life. Because of the burden of disease among infants and the availability of effective interventions to prevent early-onset GBS disease, these guidelines concern only early-onset disease. The measures used to prevent early-onset GBS disease also might prevent some perinatal maternal infections; however, they do not prevent late-onset infant disease.

Early-onset GBS Disease

GBS is the leading infectious cause of morbidity and mortality among infants in the United States. As a result of prevention efforts, incidence of GBS has declined dramatically over the past 15 years, from 1.7 cases per 1,000 live births in the early 1990s to 0.34–0.37 cases per 1,000 live births in recent years (Figure 1). On the basis of data from CDC's Active Bacterial Core surveillance (ABCs) system, a network of 10 sites across the United States that conduct active, population-based surveillance, CDC estimates that in recent years, GBS has caused approximately 1,200 cases of early-onset invasive disease per year; approximately 70% of cases are among babies born at term (≥37 weeks' gestation).

Infants with early-onset GBS disease generally present with respiratory distress, apnea, or other signs of sepsis within the first 24–48 hours of life. The most common clinical syndromes of early-onset disease are sepsis and pneumonia; less frequently, early-onset infections can lead to meningitis. The case-fatality ratio of early-onset disease has declined from as high as 50% in the 1970s to 4%–6% in recent years, primarily because of advances in neonatal care. Mortality is higher among preterm infants, with case-fatality rates of approximately 20% and as high as 30% among those ≤33 weeks' gestation, compared with 2%–3% among full-term infants.

Early-onset infections are acquired vertically through exposure to GBS from the vagina of a colonized woman. Neonatal infection occurs primarily when GBS ascends from the vagina to the amniotic fluid after onset of labor or rupture of membranes, although GBS also can invade through intact membranes. GBS can be aspirated into the fetal lungs, which in turn can lead to bacteremia. Infants also can become infected with GBS during passage through the birth canal; infants who are exposed to the organism through this route can become colonized at mucus membrane sites in the gastrointestinal or respiratory tracts, but these colonized infants most commonly remain healthy.

Risk Factors for Early-onset GBS Disease

Maternal intrapartum GBS colonization is the primary risk factor for early-onset disease in infants. A classic prospective cohort study conducted during the 1980s revealed that pregnant women with GBS colonization were >25 times more likely to have an infant with early-onset GBS disease than were GBS-negative women.

**FIGURE 1. Incidence of early- and late-onset invasive group B streptococcal (GBS) disease—Active Bacterial Core surveillance areas, 1990–2008, and activities for prevention of GBS disease**

*Incidence rates for 2008 are preliminary because the live birth denominator has not been finalized.*