

7.5 Group B Streptococcal Disease of the Newborn

Case Definition

Confirmed Case

Clinical illness in an infant less than one month of age with laboratory confirmation of infection:

- Isolation of group B Streptococcus (*Streptococcus agalactiae*) from a normally sterile site (such as blood or cerebrospinal fluid)
OR
- Demonstration of group B Streptococcus DNA in a normally sterile site

Probable Case

Clinical illness in an infant less than 1 month of age with laboratory confirmation of infection:

- Detection of group B Streptococcus antigen in a normally sterile site

Clinical Presentation

There are two manifestations of this disease: early onset and late onset. Early onset typically begins within the first day of life (range is between 0 and 6 days after birth). Symptoms associated with early onset disease include apnea, meningitis, pneumonia, respiratory distress, sepsis, and shock. Late onset disease typically begins between 3 to 4 weeks of age (range is between 7 to 89 days) commonly manifests as occult bacteremia or meningitis; other focal infection such as osteomyelitis, pneumonia and cellulitis, occur less commonly. This infection is the leading cause of bacterial meningitis among newborns.

Epidemiology

Occurrence

The incidence of group B Streptococcal infection in Canada has decreased dramatically since the introduction of intrapartum prophylaxis. One Canadian population-based study (Himmelberger, 2002) indicates that the overall incidence was 0.64 per 1000 live births, with 57% of the cases being early-onset disease. In NL, there were two cases of group B Streptococcus reported from January 01, 2008 to December 31, 2012.

Reservoir

Group B streptococcus bacteria are common inhabitants of the gastrointestinal and genitourinary tract. About 10-30% of pregnant women harbor group B streptococci in the genital tract, and about 1% of their babies may develop symptomatic infection.

Transmission

Transmission from mother to infants occurs shortly before or during delivery. After delivery person-to-person transmission can occur. Although uncommon, group B Streptococcus can be acquired in the nursery from healthcare workers or visitors. The infection can also be community-acquired.

Incubation Period

Less than one week for early-onset disease; unknown for late-onset disease.

Communicability

If the mother is colonized with group B Streptococcus, it can be passed onto the infant during the intrapartum period; especially high risk with premature birth and/or rupture of membrane greater than 18 hours prior to delivery, or when mother has fever during labor.

Control Measures

Management of Case

Infants with Group B streptococcal infection is a medical emergency requiring immediate medical treatment in an acute care setting. Consultation with a pediatrician or neonatologist is recommended.

Management of Contacts

Investigation of contacts is not required.

Management of Outbreaks

An outbreak management team should be established to address infection prevention and control measures.

Education and Preventive Measures

- Screening pregnant women for group B Streptococcus colonization is one of the strategies recommended for the prevention of early-onset neonatal group B Streptococcal disease. Specific recommendations is provided by experts such as the Society of Obstetricians and Gynecologist of Canada and is available at website: <http://sogc.org/wp-content/uploads/2013/01/149E-CPG-September2004.pdf>
- Other sources of information include:
 - Management of the infant with neonatal sepsis – Canadian Pediatric Society at <http://www.cps.ca/en/documents/position/management-infant-sepsis>
 - Prevention of perinatal Group B Streptococcal Disease disease revised guidelines from CDC, 2010 at <http://stacks.cdc.gov/view/cdc/5814>

Reporting Requirements and Procedures

- The laboratory (hospital or public health laboratories) reports case/s to the attending physician, the Chief Medical Officer of Health and the Medical Officers of Health (MOH)
- MOH office will notify, as required, local physicians, nurse practitioners, environmental health officers, community health nurses, communicable disease control nurses (CDCNs) and Infection control practitioners (ICP), in the particular region as required for follow-up and case investigation
- The CDCN in collaboration with the ICP (if necessary) will collect case details

- The CDCN will enter the case details into the electronic reporting system and utilize the Canadian Network for Public Health Intelligence (CNPHI) tool, if indicated, for alerts or outbreak summaries

Provincial Disease Control

- Reports the aggregate case data to Public Health Agency of Canada
- Provides an analysis of the case/s with reports in the Quarterly Communicable Disease Report (CDR), also posted on the Public Health website
<http://www.health.gov.nl.ca/health/publichealth/cdc/informationandsurveillance.html>
- Coordinates the response if an outbreak across RHAs.