GUIDELINE FOR MANAGEMENT OF MATERNAL GROUP B STREPTOCOCCUS

The following information is intended to provide the midwife with a guideline on the management of GBS in her practice. In keeping with the Standard on Informed Choice, the midwife must provide her clients with the risks and benefits of all management options.

MATERNAL COLONIZATION:

An estimated 10-30% of pregnant women are GBS carriers. The vaginal/rectal colonization can be permanent, intermittent or transient.

NEONATAL GBS INFECTION:

Neonatal GBS disease is classified as early (75% of all GBS disease) or late onset (25% of all GBS disease).

Late-onset disease occurs in babies aged 7 days to 3 months of age.
The incidence of late-onset disease has remained fairly constant throughout the 1990s when the use of intrapartum antibiotics was increasing. This suggests that intrapartum prophylaxis is not effective against late-onset disease.

Early-onset disease occurs less than 7 days after birth, and often as early as the first hour of life.

95% of babies with early-onset disease become ill within the **first 24 hours**.

It is estimated that 50% of babies born to GBS positive women who are not treated in labour with antibiotic prophylaxis will be colonized.

Of babies who are colonized, 1-2% will go on to develop GBS disease, which includes:

- Septicemia
- Pneumonia
- Meningitis
- It is estimated that 5-9% of babies (both term and preterm) with early-onset disease do not survive
- 25% of babies with GBS disease are preterm babies (less than 37 weeks gestation)
- It is estimated that 10 to 30% of preterm babies do not survive.

TRANSMISSION:

Asymptomatic carriage in gastrointestinal and genital tracts is common. Intrapartum transmission occurs via the passage through the birth canal or as an ascending infection from the vagina via intact membranes.

Transmission of GBS from mother to fetus occurs primarily after onset of labour or with rupture of membranes.

RISK FACTORS FOR TRANSMISSION OF GBS FROM MOTHER TO BABY:

- GBS positive rectal/vaginal swab
- Urine culture positive for GBS
- Previous child infected with or who died from GBS disease

- Less than 37 completed weeks of gestation
- Prolonged rupture of membranes (more than 18 hours) with unknown GBS status
- Temperature >38.0°C in labour

Colonization with GBS in a previous pregnancy is not considered an indication for intrapartum prophylaxis in subsequent pregnancies; rather women require evaluation for prenatal colonization in each pregnancy.

OTHER ASSOCIATED FACTORS FOR TRANSMISSION OF GBS FROM MOTHER TO BABY INCLUDE:

- Young maternal age
- Smoking
- Obesity
- Black race/Hispanic ethnicity
- Neurological disorders
- Renal disease

Since GBS colonization can be transient, it is still possible for a baby born to a woman with a known GBS-negative result to develop GBS disease and die.

Intrapartum antibiotic prophylaxis will not prevent all deaths. Even when treatment is appropriately given, some infants will still die of early-onset disease.

MANAGEMENT:

1) ANTENATAL CARE

COUNSELLING:

- Provide informed choice discussion in regards to GBS
- Discuss management options with the woman and her partner, including community standards and Provincial/National guidelines
- Discuss risk factors of intrapartum antibiotic prophylaxis
- Offer all pregnant women screening for GBS colonization between 35 and 37 weeks gestation; earlier if history of premature labour. The shorter the duration between cultures and birth the greater the predictive value of screening results. Re-screen after 5 weeks if woman still hasn't delivered.

If client has known allergy to penicillin, consider requesting antibiotic sensitivity on the lab requisition. This will alert lab personnel to test for appropriate antibiotic therapy, should the client's swab be GBS positive.

2) INTRAPARTUM CARE

- If GBS positive, offer intrapartum antibiotic prophylaxis.
- If GBS status is unknown, offer intrapartum antibiotic prophylaxis on the basis of risk factor(s).
- Women who will be having an elective cesarean section do not require intrapartum prophylaxis if there is no labour or rupture of membranes, regardless of GBS status.

Women with known negative results from lower vaginal and rectal GBS cultures screened within 5 weeks of delivery do not require prophylaxis to prevent GBS disease even if any of the intrapartum risk factors develop.

3) NEWBORN CARE

- Newborns of mothers who are GBS negative should receive normal newborn care. Parents should be instructed on how to assess their newborns and when to call if any concerns arise.

- Newborns of mothers with unknown GBS status and no risk factors do not need further follow-up beyond normal newborn care.
- **Adequate treatment:** Newborns of mothers who have received intrapartum antibiotics (specifically Penicillin G) at least 4 hours before birth do not need further follow-up beyond normal newborn care.
- **NOTE**: Newborns of mothers who have received alternate antibiotics are considered adequately treated only when there is prior documented bacterial sensitivity to the antibiotic used in labour.
- **Inadequate treatment:** Newborns who appear well despite their mothers being GBS colonized and not receiving adequate antibiotics (<4 hours before birth, not at all, or non-Penicillin G without documented sensitivity) should be assessed (temperature, respirations, heart rate, colour) for 24 hours and evaluated or treated if signs of sepsis develop.
- Newborns of mothers with unknown GBS status with risk factors should be assessed for 24 hours and evaluated or treated if signs of sepsis develop.

TREATMENT OPTIONS FOR PREVENTION OF EARLY-ONSET DISEASE

1. INTRAPARTUM ANTIBIOTIC PROPHYLAXIS FOR GBS POSITIVE WOMEN

Penicillin G, 5 million units IV initial dose, then 2.5 million units IV every 4 hours until birth.

OR

If the woman is penicillin allergic but not at risk of anaphylaxis: Cefazolin 2 g IV initial dose, then 1 g IV every 8 hours until birth.

OR

If the woman is penicillin allergic and at risk of anaphylaxis Clindamycin 900 mg IV every 8 hours or Erythromycin 500 mg IV every 6 hours until birth.

If GBS resistance is demonstrated to Clindamycin **or** Erythromycin by culture and sensitivity or susceptibility unknown, then give Vancomycin 1 g IV every 12 hours until birth.

Note: Midwives should be familiar with their community protocol in regards to specific antibiotic treatment for GBS.

ADVERSE EFFECTS OF INTRAPARTUM ANTIBIOTIC PROPHYLAXIS

Potential adverse or unintended effects of GBS prevention that have raised concern include:

- Anaphylactic reaction to agents used for intrapartum antibiotic prophylaxis Emergence of GBS strains resistant to standard therapies
- Increasing incidence of serious neonatal infections caused by pathogens other than GBS
- May increase incidence of breast candidiasis and neonatal thrush

2. ALTERNATIVE THERAPIES FOR GBS POSITIVE WOMEN

Alternative therapies may be used during the prenatal and/or intrapartum period as per midwife's protocol.

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