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Prevention of Neonatal Early Onset Group B Streptococcal Disease Guidelines

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Guidelines Definition

Clinical guidelines are systematically developed statements that assist clinicians and patients in making decisions about appropriate treatments for specific conditions.

They allow deviation from a prescribed pathway according to the individual circumstances and where reasons can be clearly demonstrated and documented.

Minor Amendments

If a minor change is required to the document, which does not require a full review please identify the change below and update the version number.

Type of change	Why change made	Page number	Date of change	Version 1 to 1.1	Name of responsible person

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1. Introduction and Background

Group B Streptococcus (GBS), is a gram-positive bacterium that causes invasive disease primarily in infants, pregnant or postpartum women. It is recognised as the most frequent cause of severe early onset infection in neonates with an incidence in the UK of 0.5/1000 births (RCOG 2017). There is controversy about its prevention, and the risks of GBS disease must be balanced against the wishes of the mother and the risk of adverse reactions to antibiotics.

Although 10 – 30% of pregnant women in the UK carry GBS in their vagina or rectum, routine GBS carriage screening is not recommended during pregnancy in the UK (RCOG 2017). The vaginal / rectal colonisation can be permanent, intermittent or transient. Antenatal treatment with penicillin is not recommended.

The risk of GBS being passed from a mother to a baby is highest during labour and birth. It is estimated that 50% of babies born to GBS positive women who are not treated in labour with antibiotic prophylaxis will be colonised (American College of Obstetricians and Gynaecologists 2019). Of babies who are colonised, 1-2% will go on to develop GBS disease, which includes:

- Septicaemia
- Pneumonia
- Meningitis
- Mortality in 6% of term babies with early-onset disease.
- Mortality in 18% of preterm babies with early onset disease (American College of Obstetricians and Gynaecologists 2019).

Early onset GBS disease (EOGBS), which represents 75% of all GBS disease, is defined as "GBS occurring in infants less than 1 week old and is acquired through vertical transmission from colonised mothers''. Clinical presentations include sepsis, pneumonia and meningitis. 95% of babies with early-onset disease become ill within the first 24 hours (Public Health England 2018).

Late onset GBS (LOGBS), which represents 25% of all GBS disease, is defined as "GBS occurring in infants older than 1 week and is acquired through vertical transmission or through horizontal transmission in hospital or community''. Meningitis is the most common presentation (RCOG 2017).

The aim of this guideline is to assist midwives and doctors in the prevention of early onset group B streptococcal disease (EOGBS) in New-borns.

2. Risk Factors for Transmission of GBS from Mother to Baby

The following are risk factors for GBS transmission from mother to baby:

- GBS positive rectal / vaginal swab.
- Urine culture positive for GBS.
- Previous child infected with, or died from, GBS disease.
- Less than 37 completed weeks of gestation.
- Prolonged rupture of membranes (more than 24 hours).
- Temperature >38.0°C in labour.

Colonisation with GBS in a previous pregnancy is not considered an indication for intrapartum antibiotic prophylaxis in subsequent pregnancies, rather women require evaluation for prenatal colonisation in each pregnancy.

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

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

3. Management of Group B Strep

3.1 Antenatal care

- Vaginal swabs should not be taken during pregnancy unless there is a clinical indication to do so, i.e.
    - Vaginal discharge
    - Vaginal bleeding

- Where testing for GBS is necessary, a low vaginal swab should be taken. The woman can perform this herself if she wishes.

- When risk factors are identified in the antenatal period a plan of care will be clearly written in the maternal case notes.

- Any MSU or vaginal swab should be followed up in a timely manner. Each clinical area should have a clear pathway of communication for informing women of their results.

- When GBS is identified the person receiving the result will act immediately and inform the named or associate midwife, who

should inform the woman and give her appropriate advice. This will be CLEARLY DOCUMENTED in the case notes.

- All high-risk women should be provided with information about Group B streptococcus and its potential effects on their babies. Patient leaflets are available based on information from the Royal College of Obstetricians and Gynaecologists (RCOG) and a supply should be kept in the Antenatal Clinics.

- Immediate induction of labour and intrapartum antibiotic prophylaxis should be offered to all women with pre-labour rupture of membranes at 37+0 weeks of gestation or more if GBS colonisation was identified earlier in the pregnancy (by a swab taken for other reasons).

3.2 Intrapartum Care

- If GBS positive on vaginal swab, or where GBS bacteriuria has been identified offer intrapartum antibiotic prophylaxis, see below / MicroGuide for CTMUHB recommendations. . Antibiotics should be started as soon as possible during labour and continued until the baby is born. Intrapartum intravenous antibiotic prophylaxis given more than 2 hours before birth may reduce the risk of infection for the baby.

    - **First Line** - Benzylpenicillin 3g in 100 ml 0.9% sodium chloride infused intravenously over 60 minutes at the onset of labour, followed by 1.8g in 100ml 0.9% sodium chloride infused intravenously over 30 minutes 4 hourly until delivery.
    - **Non-severe penicillin allergy** - Cefuroxime 1.5g in 100ml 0.9% sodium chloride infused intravenously over 30 minutes at the onset of labour, followed by 750mg in 100ml 0.9% sodium chloride infused intravenously over 30 minutes 8 hourly until delivery.
    - **Severe penicillin allergy** - Vancomycin 1g in 250ml 0.9% sodium chloride infused intravenously over 120 minutes at the onset of labour, followed by 1g in 250ml 0.9% sodium chloride infused intravenously over 120 minutes 12 hourly until delivery. Pre-dose vancomycin levels are only required if the patient is to receive more than 4 doses. Contact the Pharmacy Department for advice if necessary.

- If GBS was detected in previous pregnancy, intrapartum antibiotics are **not** indicated.

- Antibiotic prophylaxis for GBS is **unnecessary** for women with preterm rupture of membranes until they are in established labour.

- Antibiotic prophylaxis for EOGBS is **not** required for women undergoing **planned** caesarean section in the **absence** of labour and with **intact** membranes.

- Women who have their labours induced and who are GBS positive will need to be transferred to labour ward as soon as established labour has been confirmed. Transfer to labour ward would initiate the commencement of GBS antibiotic protocol.

- A paediatrician should be informed within 1 hour of birth and asked to review the baby to make a plan of care.

- Women who are low risk and are cared for using the All Wales Normal Pathway should have the need for Intrapartum Antibiotic Prophylaxis (IAP) documented as a variation.

- If chorio-amnionitis is suspected, broad-spectrum antibiotic therapy including an agent active against GBS should replace GBS-specific antibiotic prophylaxis. See MicroGuide for CTMUHB recommendations. This should be prescribed by an obstetrician after reviewing the woman and making a clear plan of care.

Women who are pyrexial in labour (>38 degrees Celsius) should be offered broad-spectrum antibiotics including an antibiotic for prevention of neonatal EOGBS disease. See MicroGuide for CTMUHB recommendations.

3.4 Newborn Care

Well babies at risk of EOGBS should be observed for the first 12–24 hours after birth with regular assessments of general wellbeing, feeding, heart rate, respiratory rate and temperature.

For those with signs of sepsis, the Neonatal Guideline Treatment and management of babies with suspected or confirmed early onset neonatal sepsis should be followed.

4. Guideline Summary

- Routine antenatal screening is not recommended

- Antenatal antibiotic prophylaxis is not recommended

- The following women **should be offered** antibiotics in active labour once transferred to labour ward:
    - GBS Positive in this pregnancy
    - Previous baby with GBS disease
    - If chorio-amnionitis is suspected (broad-spectrum antibiotics including an agent active against GBS should replace GBS-specific antibiotic prophylaxis).
    - Pyrexia in labour, maternal temperature > 38 degrees Celsius in labour

- These factors alone **do not** indicate antibiotic treatment:
    - GBS in previous pregnancy
    - Pre-labour Premature Rupture Of Membranes (until onset of labour, when antibiotics **should** be given)
    - Planned caesarean section with intact membranes

- Women suitable for the All Wales Normal Labour Pathway should have IV Antibiotic administration documented as a variation.

- GBS alone is not an indication to have a Paediatrician present at birth unless other risk factors are present, although paediatric review should take place within one hour.

5. Auditable Standards

- Percentage of eligible women with various risk factors receiving IAP.
- Percentage of women receiving IAP for at least 2 hours prior to delivery.
- Percentage of women with pyrexia receiving broad-spectrum antibiotics.
- Percentage of infants with risk factors being observed for 12–24 hours.

6. References

American College of Obstetricians and Gynaecologists (ACOG) Committee on Obstetric Practice guidelines, 2019.

Public Health England, UK Standards for Microbiology Investigations Detection of Carriage of Group B Streptococci, Bacteriology | B 58 | Issue no: 3 | Issue date: 1.06.18

Royal College of Obstetricians and Gynaecologists guidelines, number 36, prevention of Early onset neonatal group B streptococcal disease 2017.

UK Group B Strep Support organization. www.gbss.org.uk.