MATERNITY GUIDELINES

Group B Streptococcus

Contents

1. Introduction

Neonatal bacterial sepsis is associated with significant morbidity and mortality. Group B Streptococcus (GBS) is the leading cause of perinatal infection. The incidence of infection in 2015 in the UK and Ireland is 0.57 in 1000 live births.

2. Pathophysiology

GBS is a commonly present in the maternal genito-urinary and gastro-intestinal tract and colonises 20-40% of women (there is no evidence that pregnant women have any difference in rates).

Contamination of the infant usually occurs following passage of the infant through the colonised birth canal.

Rates of vertical transmission (resulting in colonisation) vary from 40 to 70%. Rates of neonatal infection are low but are significantly increased by major risk factors discussed below.

Of the neonates that become infected, 66% present within the first 7 days of life (90% of these within the first 24 hours). This is termed early onset disease.

The overall mortality of neonatal systemic infection is 9.4% (6% Term and 18% Preterm).

3. Screening

Routine screening is not recommended by the UK National Screening Committee. It would only detect 50% of carriers and of those that would be detected, 50% would go on to be culture negative at birth. Maternal request is not an indication for screening.

There is an important difference between **clinical samples** and **screening samples**. Derriford laboratory will always report the presence of GBS found on any microbiology sample taken from a pregnant woman (genital swabs and urine) but the microbiological methodologies required for formal screening are not available locally and our local pick up rate for GBS is lower for this reason.

However, if the patient opts for private screening performed outside of the NHS by an accredited laboratory and the test is positive for GBS colonisation then intrapartum antibiotic prophylaxis (IAP) is offered to the woman.

Women with symptomatic GBS urinary tract infection (>10^5 cfu/ml) during pregnancy should receive appropriate antibiotic treatment at the time of diagnosis and be offered IAP. Asymptomatic bacteriuria in pregnancy should be confirmed on a second sample ensuring it is a true clean catch midstream urine, and then treated at the time if the same organism isolated. Any GBS detected in the pregnancy should lead to offer of intrapartum antibiotic prophylaxis at time of labour.

There is no need to treat GBS cultured from a vaginal or rectal swab at the time of diagnosis but this should be clearly marked on the patients case notes to allow IAP to be provided.

4. The following women should be treated with intrapartum antibiotic prophylaxis (IAP)

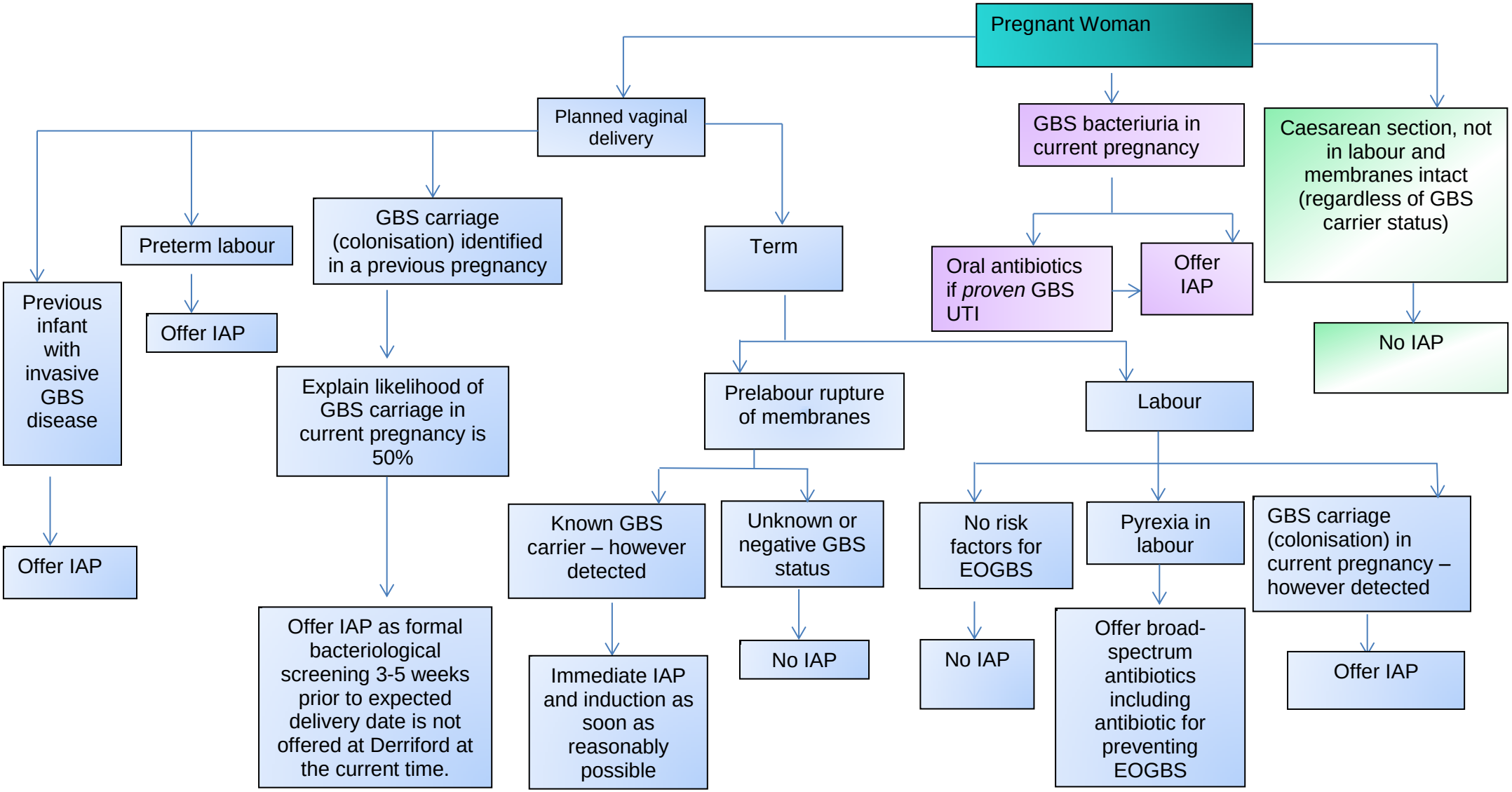
See Flowchart on page 3 (from RCOG Greentop 36 Sept 2017)

- Women who have had a GBS positive high vaginal and/or rectal swab or bacteruria at any time during this pregnancy.
- Women who have previously been carriers of GBS will continue to have a 50% chance of carriage and are offered IAP in all subsequent deliveries, they can decline antibiotics if they wish but formal bacteriological screening late in pregnancy is not offered as an alternative decision tool at PHNT.
- Women with a previous baby with early- or late-onset GBS disease.
- Women who have had a GBS positive HVS or bacteruria at any time in a previous pregnancy (irrespective of a subsequent negative result) **and** present in this pregnancy with 1 or more of the following:

    - Premature delivery (< 37 weeks)
    - Intrapartum fever (temp ≥ 38 degrees Celsius or 37.5 and above on 2 occasions, 2 hours apart)
    - Prolonged rupture of membranes ≥ 18 hours
    - Offensive liquor

- If chorioamnionitis is suspected, broad-spectrum antibiotic therapy including an agent active against GBS should replace GBS-specific antibiotic prophylaxis (see Sepsis Guideline: 1st line - cefuroxime and metronidazole; 2nd line teicoplanin, gentamicin and metronidazole).
- IAP is recommended for women in confirmed preterm labour (without knowledge of GBS colonisation).

4a. Flowchart - RCOG Greentop 36 Sept 2017



5. Intrapartum antibiotic prophylaxis options

Ist line: **IV benzylpenicillin 3g** as soon as possible after the onset of labour followed by 1.5g four-hourly until delivery.

2nd line: **IV cefuroxime 1.5g** as soon as possible after the onset of labour followed by 750mg every 8 hours for women who are mildly allergic to penicillin (no previous anaphylaxis, angioedema, respiratory distress or urticaria).

3rd line: For women with severe penicillin/cephalosporin or carbapenem allergy, **IV teicoplanin 600mg** every 12 hours should be used for a maximum of four doses (after which the on-call Microbiologist should be asked for an opinion). Teicoplanin is the preferred glycopeptide antibiotic at PHNT and is considered equivalent to vancomycin in many ways.

Clindamycin is no longer recommended in the UK due to resistance rate of 16%.

In the event of severe allergy to the above agents, contact consultant Microbiologist or Immunologist to discuss.

6. Special situations

Methods of induction should not vary according to GBS carrier status. Membrane sweeping or cervical ripening balloons can all be used.

Women considering/planning a home birth should be aware that this will be against medical advice. A detailed management plan and individualised letter will be written and reviewed at the weekly governance meeting.

GBS **is not** a contraindication for a water birth providing the women can receive appropriate IAP and there are none of the additional risk factors listed in paragraph 4.

Women with known GBS colonisation who are diagnosed with pre-labour rupture of membranes at 37/40 or more should be offered immediate induction of labour and IAP. This would usually involve use of Propess for 6 hours followed by use of Syntocinon with as minimal delay as possible.

Women with known GBS colonisation undergoing planned Caesarean section in the absence of labour and with intact membranes should receive standard intraoperative antibiotics for Caesarean section.

Breast feeding is encouraged irrespective of GBS carriage.

Any unusual presentations or clinical uncertainty should be referred to a senior Obstetrician for management.

7. Women with preterm rupture of membranes

Bacteriological **screening** specifically for GBS carriage is not recommended by RCOG for women with preterm rupture of membranes and is not carried out locally. IAP is only recommended once labour is confirmed or induced irrespective of GBS status. **Clinical** microbiological swabs should however continue to be taken from the high vagina when a speculum examination is performed and the laboratory will report if GBS is found on culture.

For those with evidence of colonisation in current or previous pregnancy the perinatal risks associated with preterm delivery at less than 34 weeks of gestation are likely to outweigh the risk of perinatal infection. For those over 34 weeks gestation, it may be beneficial to expedite delivery if the woman is known to carry GBS.

8. Post-delivery (cross-referenced to Neonatal Guidelines)

http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Clinical%20Guidelines/Neonatal/Grp%20B%20infection.pdf?timestamp=1515682907443

All babies born to women with history of GBS in any previous pregnancy (irrespective of any subsequent negative result) will require a neonatal review and be commenced on NEW observations for a minimum of 24 hours seeking appropriate review if indicated. NEW observations are recorded in the asymptomatic infant at 1 hour, 2 hour then 4 hour and every 4 hours until 24 hours of age.

The following infants are treated:

- Any infant suspected of sepsis (see neonatal sepsis protocol) as GBS sepsis can be mistaken for or associated with perinatal hypoxia.
- Infants of mothers who have had a GBS positive HVS or bacteriuria at any time during this **or** a previous pregnancy (irrespective of a subsequent negative result) **and** inadequate intrapartum intravenous antibiotics (< 2 hours prior to delivery) plus **one** of the following risk factors:
    - Premature delivery (< 37 weeks)
    - Maternal fever (temp > 38 degrees Celsius for 1 hour or more)
    - Prolonged rupture of membranes ≥ 18 hours
    - Offensive liquor
    - Previous infant with invasive GBS disease

If any risk factors are identified then look for others. If there is any doubt discuss with consultant neonatologist.

Special circumstances:

- The infant born to a mother who has had a previous infant with proven invasive GBS disease.
  Irrespective of the cover that the mother has had during labour or absence of other risk factors the infant should have NEW observations for 24 hours. If there are any concerns about an infant's behaviour, please discuss with the Neonatologist before performing a partial septic screen and starting antibiotics.

  See:
  http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Clinical%20Guidelines/Neonatal/Neonatal%20Sepsis.pdf?timestamp=1521470297517

  Review blood culture results after 36 hours and stop antibiotics if infant is well and blood cultures are negative.
- Where one infant from a multiple birth is diagnosed with GBS disease the other infant should also be treated even if well.

9. Patient information

The RCOG recommends that their own patient information leaflet "Group B streptococcus (GBS) infection in newborn babies" is given to all relevant women. Copies of this are distributed in antenatal clinic and community bases and is available to print below:

https://www.rcog.org.uk/en/patients/patient-leaflets/group-b-streptococcus-gbs-infection-pregnancy-newborn-babies/

pi-gbs-pregnancy-newborn-booklet.pdf

10. Record keeping

It is expected that every episode of care be recorded clearly, in chronological order and as contemporaneously as possible by all healthcare professionals as per Hospital Trust Policy. This is in keeping with standards set by professional colleges, i.e. NMC and RCOG.
All entries must have the **date and time** together with **signature and printed name**.

Monitoring and Audit

Auditable Standards:
Please refer to audit tool, location: 'Maternity on cl2-file11', Guidelines
Appropriate treatment and IAP of women with antenatal GBS detection

Reports to:
Clinical Effectiveness Committee – responsible for action plan and implementation of recommendations from audit

Frequency of audit:
Annual
Responsible person:
Audit Lead Midwife

Cross references:

Antenatal Guideline 31: Maternity Hand Held Notes, Hospital Records and Record keeping
Antenatal Guideline 44: Guideline Development within the Maternity Services

Neonatal Guideline - Group B Streptococcus
http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Clinical%20Guidelines/Neonatal/Grp%20B%20infection.pdf?timestamp=1515682907443

Neonatal guideline - Neonatal Sepsis
http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Clinical%20Guidelines/Neonatal/Neonatal%20Sepsis.pdf?timestamp=1515683128737

References

Royal College of Obstetricians & Gynaecologists, 2017. Prevention of early-onset Neonatal Group B Streptococcal Disease, Green-top guideline No 36
NICE clinical guideline 149. Antibiotics for early-onset neonatal infection, August 2012

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Version	8
Changes	Changes to intrapartum antibiotic prophylaxis and management of PROM Update the definition of screening RCOG Strep B leaflet – monitoring of newborn for 12hrs. This differs to Trust guidance of 24hrs.
Address	Maternity Department, Derriford Hospital, Plymouth. PL6 8DH

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