Management of Women with Group B Streptococcus (GBS) during Pregnancy

Speciality:	Maternity
Approval body:	Labour Ward Forum
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1. Purpose

The purpose of this policy is to provide guidance for midwives, obstetricians, and neonatologists on antenatal screening for Group B Streptococcal (GBS) infection, management of GBS during pregnancy, and prevention of early onset neonatal GBS infection.

2. Background

Group B Streptococcus (GBS) is a bacterium that lives healthily in the vagina in approximately 15-30% of women in the UK. Usually GBS does not cause baby or mother any problems during childbirth, but in certain situations it can be the cause of serious neonatal infection.

Group B streptococcus (GBS) is the leading cause of serious neonatal infection in the UK. Early onset of GBS within the first week of life can result in sepsis, pneumonia and meningitis.

The prevalence of group B streptococcal bacteraemia in infants 0-90 days old in England, Wales and Northern Ireland in 2008 is 0.66 /1000 live births and in Wales 0.38/1000 live births. Prevalence of early onset (0-6 days) GBS infection in UK and Wales is 0.39 and 0.17/1000 live births respectively (Health Protection Agency Report, 2009). The mortality from early onset GBS disease in the UK is 6% in term infants and 18% in preterm infants (RCOG 2003). Intra-partum antibiotic prophylaxis will not prevent all deaths. Some infants will die of early onset disease, particularly where the disease is well established prior to birth.

3. Antenatal

3.1 GBS Carrier Screening Recommendation

Routine screening for GBS in pregnancy is not currently advised (RCOG 2017).

The UK National Screening Committee examined the issue of strategies for the prevention of EOGBS disease in 2016–17 and in March 2017 recommended that routine screening using bacteriological culture or near-patient testing techniques should not be introduced into UK practice (RCOG 2017)

Private testing for GBS is not recommended (RCOG 2003). A positive result may possibly result in unnecessary and potentially harmful interventions. False negative results are possible. If a woman decides to go down this route she should be counselled by a midwife appropriately about the potential risks of screening (RCOG 2003):

The incidence of severe anaphylaxis associated with the use of penicillin in labour has been estimated at 1: 10,000 women treated.

The incidence of fatal anaphylaxis has been estimated as 1:100,000 women treated.

Widespread use of antibiotics is known to contribute to the development of resistant organisms.

Exposure to antibiotics in the neonatal period may affect neonatal faecal flora, with a subsequent impact on immune development and later allergy.

3.2 A positive swab in a woman experiencing a normal pregnancy

If GBS is detected incidentally on a vaginal swab, antenatal treatment for GBS is not recommended (RCOG 2017).

However these women should be offered Intrapartum antibiotics prophylaxis (IAP) in Labour (RCOG 2017).

3.3 GBS urine infection

If GBS is cultured at any time during the current pregnancy from urine, this indicates a higher level of genital tract GBS carriage but exact quantification of the risk of neonatal disease is not possible. These women should be treated as follows:

Women with GBS bacteriuria identified during the current pregnancy should receive Intrapartum antibiotics prophylaxis in Labour (RCOG 2017).

And

Women with GBS urinary tract infection (growth of greater than 10^5 cfu/ml) during pregnancy should receive appropriate treatment at the time of diagnosis as well as Intrapartum antibiotics prophylaxis in Labour (RCOG 2017).

3.4.1 Preterm pre-labour rupture of the membranes (PPROM) in GBS carriers

Routine Erythromycin 250 mg QDS should be given orally for a total of 10 days starting at date of PPROM confirmation.

In preterm situation (Less than 37 weeks); Intrapartum Antibiotics prophylaxis should be given once Labour is confirmed or induced irrespective of GBS status (RCOG 2017).

For those with evidence of colonisation in the current pregnancy or in previous pregnancies, the perinatal risks associated with preterm delivery at less than 34+0 weeks of gestation are likely to outweigh the risk of perinatal infection**.**

For those at more than 34+0 weeks of gestation it may be beneficial to expedite delivery if a woman is a known GBS carrier (RCOG 2017).

Delivery is indicated if there is clinical evidence of infection or a rise in inflammatory serum markers.

*3.4.*2 Term (37 weeks and beyond) pre-labour rupture of the membranes (PROM) in GBS carriers

Women who are known GBS carriers should be offered immediate Intrapartum Antibiotics prophylaxis and induction of Labour as soon as reasonably possible (RCOG 2017).

Intermittent Auscultation is recommended as the method of fetal monitoring in the absence of any other risk factors (IA Guideline, 2020).

Minimise the number of vaginal examinations to reduce the risk of GBS infection of Neonate.

In women where the carrier status is negative or unknown, induction of labour can be offered immediately or following expectant management up to 24 hours. Beyond 24 hours, induction of labour is appropriate (RCOG 2017).

3.5.1 Previous GBS carriage

Explain to women that the likelihood of maternal GBS carriage in this pregnancy is 50%. Discuss the options of Intrapartum Antibiotics prophylaxis in Labour, or bacteriological testing in late pregnancy and then offer of IAP if still positive (RCOG 2017)

If performed, bacteriological testing should ideally be carried out at 35–37 weeks of gestation or 3–5 weeks prior to the anticipated delivery date, e.g. 32–34 weeks of gestation for women with twins (RCOG 2017).

N.B: Bacteriological testing suggested by RCOG is vaginal/rectal (Enriched Culture Medium swab). This Swab process is not currently available on the NHS in Wales. Inform women that our current NHS test in Wales is not the most accurate and could provide more false negatives results. Some women may just want the IAP.

3.5.2 Bacteriological Considerations

When testing for GBS status, a swab should be taken from lower vagina and the anorectum (a single swab from vagina then anorectum or two separate swabs).

After collection, the specimen should be transported and processed as soon as possible. If delay anticipated, specimens should be refrigerated. Indicate that the swab is being taken for GBS.

4. Intrapartum

4.1 Woman with Previous GBS-affected infant

Intrapartum Antibiotics Prophylaxis should be offered to all women with a previous baby with early- or late-onset GBS disease (RCOG 2017).

4.2 Woman with positive GBS result in current pregnancy

Women with positive GBS result in current pregnancy should be offered Intrapartum antibiotics prophylaxis in Labour (RCOG 2017).

4.3 Woman in Labour with a temperature of 38°C or greater and without known GBS colonisation

Women who are pyrexial (38°C or greater) in labour should be offered a broad-spectrum antibiotic regimen which should cover GBS in line with local microbiology sensitivities (RCOG 2017).

4.4 Women in preterm labour without known GBS colonisation

Intrapartum Antibiotics prophylaxis for GBS is recommended for women in confirmed preterm labour (RCOG 2017).

Intrapartum Antibiotics prophylaxis is not recommended for women not in labour and having a preterm planned caesarean section with intact membranes (RCOG 2017).

4.5 Induction of Labour in woman with GBS carrier status

As far as the amniotic membranes are intact, there is no evidence to suggest that different induction methods increase the risk of EOGBS disease (RCOG 2017).

4.6 Membrane Sweep

Membrane sweeping is not contraindicated in women who are carriers of GBS (RCOG 2017).

4.7 Birthing Pool

Birth in a pool is not contraindicated if the woman is a known GBS carrier provided she is offered appropriate Intrapartum Antibiotics prophylaxis in Labour (RCOG 2017).

5. Women giving birth with the midwife as the lead professional

Women should be informed of the risks of GBS colonisation so that they can make an informed choice of where they would like to give birth to their babies.

6. Informing women of presence of GBS infection

Inform woman of positive result verbally and counselling information must include:

- GBS is a normal vaginal commensal in up to 40% of the population (RCOG 2017)
- Antenatal treatment with oral penicillin does not reduce the likelihood of GBS colonisation at the time of delivery, and so is not required
- A note of the presence of vaginal carriage should be made in the woman's maternity notes
- The option of intrapartum antibiotics in labour should be discussed with pregnant woman and documented in the notes whether woman wishes to have antibiotics or not and whether antibiotics are required at the current time (Vaginal swab with symptoms or GBS bacteriuria).
- GBS is highly unlikely to be the cause of the vaginal discharge.

The information leaflet for women with Group B Streptococcus (GBS) infections should be given and documented in the notes.

7. Informing health professionals of GBS

7.1 If the swab or MSU has been taken in the hospital setting

The midwife in requesting clinical area is to inform the woman's community midwife of this result. The community midwife is to document the swab/urine culture result in the woman's hand held maternity record in the 'Intrapartum Care' section, and document the woman's decision about intra partum intravenous antibiotics.

Informing the GP: midwife in requesting clinical area to inform the woman's GP by standard letter with attached copy of result.

7.2 Investigations requested by the community midwife

If the vaginal swab or MSU has been taken in the community setting, the community midwife is to document the swab/urine culture result in the woman's hand held maternity record in the "intrapartum care" section, and document the decision of the woman about intra partum intravenous antibiotics.

8. Lead professional

If women are under midwife led care and no other complications arise they may continue to have their midwife as the lead professional. The community midwife is to ensure that any history of GBS infection is documented in woman's hand held maternity record in the "Special features and plans for care" section, and document the decision of the woman about intra partum intravenous antibiotics. If a woman requests further discussion an appointment may be arranged with an obstetrician.

9. Intra partum

Most neonatal GBS disease occurs after colonisation of the baby just before or during labour and Delivery

10. Vaginal birth

The UK incidence of early-onset neonatal GBS disease is approximately 0.5 per 1000 births. Around 60% of these cases are associated with identifiable risk factors, some of which may arise during labour. These risk factors include:

Intra-partum fever (>38C)

Prematurity (<37 weeks)

Prolonged rupture of the membranes (>18 hours) at term

Known carriage of GBS

Previous infant with GBS disease *

A GBS urinary tract infection during that pregnancy *

In women who have multiple risk factors (≥ 2), the argument for prophylaxis is stronger. Those who have either had a GBS urinary tract infection or previous infant affected by GBS should strongly advised to receive antibiotic prophylaxis irrespective of other risk factors.

10.1 The intrapartum antibiotic prophylaxis regime is as follows

Benzyl penicillin 3g IV as soon as possible after the onset of labour followed by Benzyl penicillin 1.2g IV four-hourly until delivery.

10.2 In case of penicillin Allergy

- If the woman has not had severe allergy to penicillin
    - a cephalosporin (e.g. IV Cefuroxime 1.5 g loading dose followed by 750 mg every 8 hours should be used.
- If there is any evidence of severe allergy to penicillin (severe Penicillin-allergic women are those who have a history of anaphylaxis, angioedema, respiratory distress or urticaria following administration of a penicillin or a cephalosporin)
    - IV Vancomycin (1 g every 12 hours to be given IV over 2 hours) should be used (RCOG 2017)
- To optimise the efficacy of antibiotic prophylaxis, the first dose should ideally be given 4 hours before delivery or at least two hours before delivery.
- If Chorioamnionitis is suspected, broad-spectrum antibiotics including an agent active against GBS should replace GBS specific Antibiotic prophylaxis.
    - Cefuroxime 1.5g IV 8 hrly + Metronidazole 500 mg 8 hrly
      OR
    - **In women with severe Penicillin allergy**, discuss with microbiologist for appropriate antibiotics
      [If delay in getting through to microbiology, start Vancomycin 1 g IV (over 2 hours) 12 hrly + Metronidazole 500 mg 8 hrly + Gentamicin OD (to calculate Gentamicin dose go https://viewer.rx-guidelines.com/SBUHB/Abx#content,9pKSyeZdOP)]

11. Caesarean section.

11.1 Elective caesarean section

If a woman undergoes elective caesarean section in the absence of labour or membrane rupture, antibiotic prophylaxis for GBS is not required, regardless of GBS carriage status. The risk of neonatal disease is extremely low in this situation.

11.2 Emergency caesarean section

Delivery by emergency caesarean section would not normally alter the decision for intrapartum prophylaxis, as a baby born by emergency caesarean section may still have been exposed to risk factors known to be associated with neonatal GBS disease. Note: No medically necessary obstetric procedure should be delayed in order to achieve 4 hours of GBS prophylaxis before delivery.

12.0 Postnatal – please use link below

file:///H:\guidelines\chapter%206%20infection%20_abmu%20neonatal%20guideline%20v2015%201mod31115%20(2).pdf

13. References

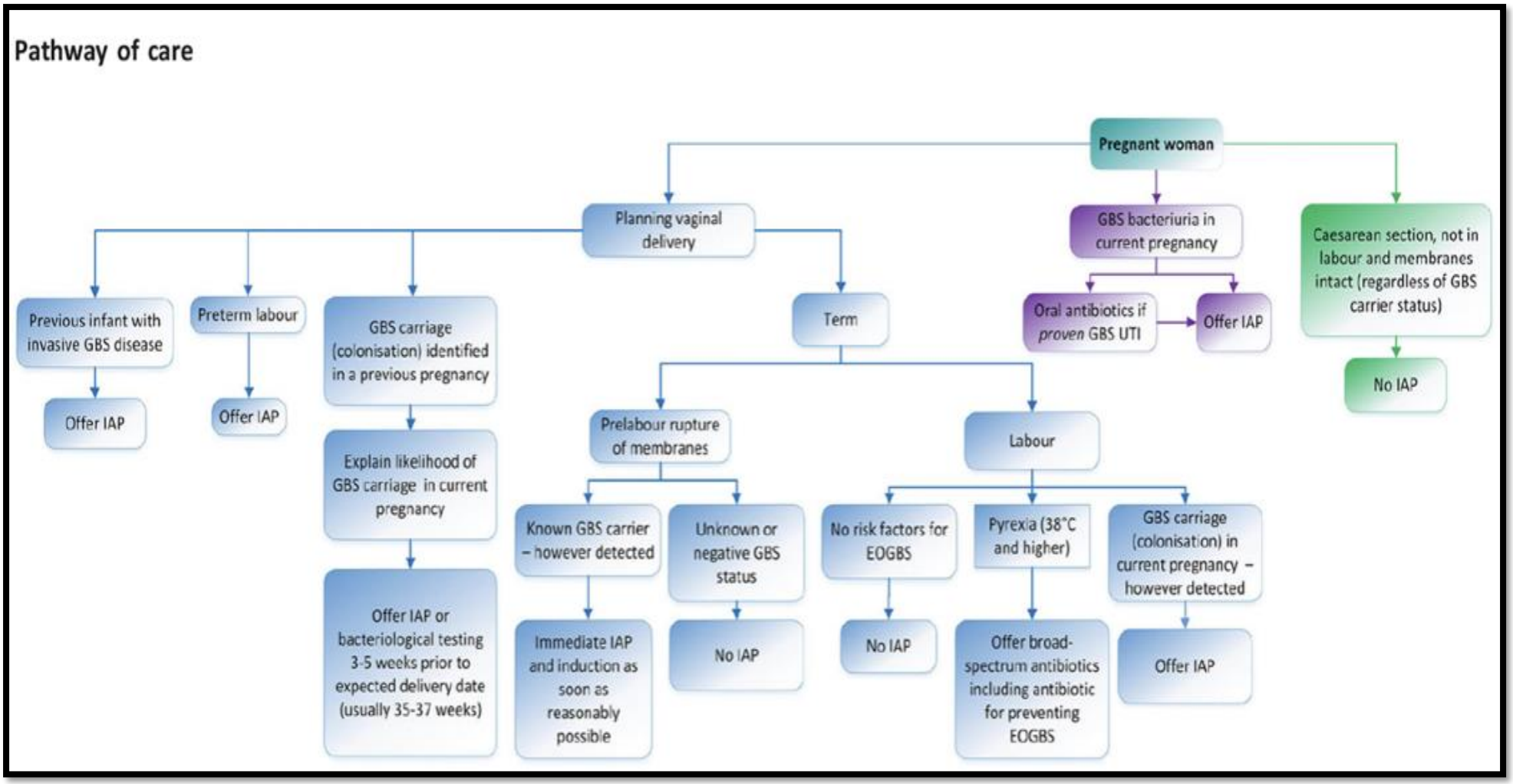
1. Royal College of Obstetricians and Gynaecologists September 2017. Prevention of Early Onset Neonatal Group B Streptococcal Disease, (Green Top Guideline No. 36).

2. National Institute of Clinical Excellence, (2008) Antenatal Care routine care for the healthy pregnant woman.

3. National Institute of Clinical Excellence, (2012) Neonatal infection (early onset): antibiotics for prevention and treatment.

4. Prevention of Perinatal Group B Streptococcal Disease - Revised Guidelines from CDC, March 2017

APPENDIX 1


Pathway of care
Pregnant woman
Planning vaginal delivery
GBS bacteriuria in current pregnancy
Caesarean section, not in labour and membranes intact (regardless of GBS carrier status)
Previous infant with invasive GBS disease
Preterm labour
GBS carriage (colonisation) identified in a previous pregnancy
Term
Oral antibiotics if proven GBS UTI
Offer IAP
No IAP
Offer IAP
Offer IAP
Explain likelihood of GBS carriage in current pregnancy
Prelabour rupture of membranes
Labour
Offer IAP or bacteriological testing 3-5 weeks prior to expected delivery date (usually 35-37 weeks)
Known GBS carrier – however detected
Unknown or negative GBS status
No risk factors for EOGBS
Pyrexia (38°C and higher)
GBS carriage (colonisation) in current pregnancy – however detected
Immediate IAP and induction as soon as reasonably possible
No IAP
No IAP
Offer broad-spectrum antibiotics including antibiotic for preventing EOGBS
Offer IAP

Maternity Services

Checklist for Clinical Guidelines being Submitted for Approval

Title of Guideline:	**Management of Women with Group B Streptococcal (GBS) during Pregnancy**
Name(s) of Author:	Labour Ward Forum
Chair of Group or Committee approving submission:	Madhu Dey
Brief outline giving reasons for document being submitted for ratification	Update to current guideline
Details of persons included in consultation process:	Labour ward forum Antenatal forum Public Health Pharmacy Microbiologist
Name of Pharmacist (mandatory if drugs involved):	Julie Harris
Issue / Version No:	2
Please list any policies/guidelines this document will supercede:	Policy for management of women with Group B streptococcus (GBS) during pregnancy
Date approved by Group:	May 2021
Next Review / Guideline Expiry:	May 2024
Please indicate key words you wish to be linked to document	GBS, Group B Strep, streptococcus, infection
File Name: Used to locate where file is stores on hard drive	Z:\npt_fs2\maternity\policies