University Hospitals of Derby and Burton NHS Foundation Trust

GBS in pregnancy and labour - Intrapartum Prophylaxis - Prevention of Early Onset Neonatal - Full Clinical Guideline

Reference No: UHDB/Obst/04:21/G2

Contents

1. Introduction

UHDB participates in the GBS3 trial and was randomised to offer swab testing in all pregnancies in the 3rd trimester. Refer to the Site specific operational document for trial protocol guidance and default to this clinical guideline where appropriate. This will be for a 12 month period from December 2022.

Group B Streptococcus (GBS), *Streptococcus agalactiae*, is a facultatively anaerobic Gram-positive bacterium colonising the rectum or vagina in approximately 28% of the pregnant population, although their presence tends to be intermittent. For most women this colonisation is asymptomatic. Occasionally GBS will however cause clinical maternal infection in the form of urinary tract infection, chorioamnionitis or postpartum endometritis.

When colonisation occurs during pregnancy the fetus may be exposed in utero as the bacterium ascends, or as the fetus descends through the genital tract during birth. Such infection is more likely to occur following prolonged membrane rupture. Although fetal demise before or during labour can occur, more commonly clinical evidence of sepsis does not become apparent in the neonate until after birth.

Early onset Group B Streptococcal Sepsis (EOGBSS) is recognised as the most frequent cause of severe infection in neonates, occurring in the first seven days of life. Most babies present with non-specific signs of systemic infection, such as feeding problems, lethargy and temperature instability. Pneumonia and meningitis are common complications. All babies developing EOGBSS are at risk of death or long term neuro-developmental impairment. Premature babies are at particularly high risk of developing EOGBSS and are more likely to die or develop long term sequelae as a result.

Intrapartum prophylaxis has been shown to significantly reduce the risk of early onset neonatal sepsis but not late-onset disease. Even when treated appropriately some infants will however still die from the disease.

There are two approaches to the prevention of EOGBSS: the risk based approach and the universal prenatal screening approach. There remains controversy about the most effective approach as universal screening policies have not yet proven their cost effectiveness and carry significant disadvantages for both mother and baby. These include: potentially fatal anaphylaxis from antibiotic therapy; medicalisation of labour; medicalisation of the neonatal period; development of resistant organisms.

The Public Health Service Laboratory (PHLS) and the current RCOG guideline currently support the use of a risk based approach to inform maternal choice. This guideline therefore adopts a 'risk-based' approach. It does not recommend routine antenatal screening. Antenatal prophylaxis is not indicated as it does not reduce the likelihood of GBS colonisation at the time of delivery

Approximately 15% of all UK pregnancies have one or more risk factors for EOGBSS. Approximately 60% of UK EOGBSS had such risk factors. Approximately 20 cases of GBS disease and 2 deaths occur for every 10,000 pregnancies with one or more risk factor. The incidence of severe anaphylaxis associated with the use of penicillin in labour is estimated to be 1/10,000 treated women and this can be fatal in 1 in 100,000

2. Purpose and Outcomes

To ensure women with a GBS infection are cared for appropriately and reduce the risk in neonatal infection

3. Abbreviations

GBS	-	Group B Streptococcus
EOGBSS	-	Early onset Group B Streptococcal Sepsis
PHLS	-	The Public Health Service Laboratory
RCOG	-	Royal College of Obstetricians and Gynaecologists
MSU	-	Midstream Urine
OR	-	Odds ratio

4. Risk Factors for Early onset Group B Streptococcal Disease

- Previously affected baby with neonatal GBS disease OR unquantifiable
- Positive urine culture for GBS in current pregnancy OR unquantifiable
- Positive recto-vaginal culture in current pregnancy
  - At 28 weeks OR 9.64
  - At 36 weeks OR 26.7
- Intrapartum maternal pyrexia (>38^0 C) OR 4.05
- Prematurity < 37 weeks OR 4.83
- Prematurity < 28weeks OR 21.7

5. Management

- This guideline does not recommend routine antenatal screening for GBS
- Treatment during pregnancy of incidentally detected GBS on swab in the absence of symptoms is not recommended as this does not reduce the likelihood of GBS colonisation at the time of delivery.
- GBS detected in urine should be treated during pregnancy as soon as the results are known with Antibiotics as per Obstetric Infections / ABX clinical guidelines

- There is no evidence to support the use of intrapartum prophylaxis for women who had GBS carriage in a previous pregnancy.

Intrapartum antibiotic prophylaxis should be offered to women as follows: Click here for guidance on Antibiotics regimes in obstetrics

Known GBS colonisation: GBS detected in urine, vaginal or cervical cultures in current pregnancy

- Intrapartum Prophylactic Antibiotics should be offered to all women with confirmed GBS colonisation in current pregnancy
- In case of prelabour rupture of membranes at 37 weeks of gestation or more immediate induction of labour and INTRAPARTUM PROPHYLACTIC ANTIBIOTICS should be offered
- INTRAPARTUM PROPHYLACTIC ANTIBIOTICS specific for GBS is not required for women undergoing planned caesarean section in the absence of labour and with intact membranes
- If chorioamionitis is suspected, further investigation should be carried out by blood culture, MSU & vaginal swabs. Treatment with broad spectrum antibiotic therapy (including an active agent against GBS) is recommended

A previously affected baby with neonatal GBS

INTRAPARTUM PROPHYLACTIC ANTIBIOTICS would be recommended even if no GBS confirmed detection in this pregnancy

Intrapartum maternal pyrexia (>38ºC)

Women who are pyrexial in labour should be offered intravenous broad-spectrum antibiotics in labour which include those which cover the GBS risk

Preterm < 37 weeks gestation

INTRAPARTUM PROPHYLACTIC ANTIBIOTICS prior to 37 weeks to be offered:

- To all women in established preterm labour <37 weeks (see extreme preterm birth guideline for singleton pregnancies <27 weeks, multiple pregnancies <28 weeks or anticipated weight <800 gram)
- In case of ARM as part of induction of labour

If offering intrapartum antibiotics a discussion should be had with a senior obstetrician about the relative risks before any administration of antibiotics. Suggested points for this discussion are included in Appendix A.

6. Intrapartum Prophylaxis (INTRAPARTUM PROPHYLACTIC ANTIBIOTICS)

If intrapartum antibiotic prophylaxis is to be given then they should be started from the onset of active labour, or after the rupture of membranes in the case of an induction of labour.

Refer to clinical guideline: Obstetric Infections for up to date antibiotics guidance Click here for guidance on Antibiotics regimes in obstetrics

For the antibiotic to achieve maximum efficacy it should be given at least 4 hours prior to delivery

7. Specific Situations

- Women who present with Prelabour Rupture of Membranes at term who have known additional risk factors for GBS should be offered earlier induction of labour (as soon as possible) and intra-partum antibiotic prophylaxis.

- There is no evidence to suggest that antenatal membrane sweeping or insertion of prostaglandin for IOL increase the rate of transmission from mother to fetus in women at increased risk.

- Women having intrapartum antibiotic prophylaxis for GBS who are otherwise suitable for Midwife-Led Care in labour can still remain Midwife-Led Care in labour; however suitability for a water birth is a separate consideration.

8. Management of the Neonate

NEWTT observations are required 1 and 2 hours following birth, then every 2 hours until baby is 12 hours old if:

- GBS positive on HVS in current pregnancy and NO adequate antibiotics in labour (less than 4 hours prior to birth)
- GBS positive in MSU in current pregnancy (regardless of antibiotics in labour) (treated and negative MSU to confirm successful treatment)
- Previously affected baby with Group B Strep (regardless of antibiotics in labour)

NOTE: If GBS positive in MSU in current pregnancy and not treated or treated but NO negative MSU sample following completion of ABX course to immediately inform paediatric team and refer to neonatal guideline

Please inform paediatric team when baby is born; refer to the neonatal guideline (**G3).**

9. Monitoring Compliance and Effectiveness

Monitoring requirement	Compliance to guideline
Monitoring method	Retrospective case note review
Report prepared by	Named individual undertaking audit
Monitoring report sent to:	Labour Ward Forum
Frequency of report	3 yearly

10. References

NICE. Antenatal Care: routine care for the healthy pregnant woman. National Clinical Excellence Guidelines, CG62 last updated Feb2019

NICE. Neonatal infection (early onset): antibiotics for prevention and treatment. NICE guidelines CG149, August 2012

The Prevention of Early Onset Neonatal Group B Streptococcal Disease. RCOG Green-top Guideline No. 36. Second edition July 2012

Information for discussion

The following points can be used to guide discussions with women offered intrapartum prophylaxis in the presence of risk factors for early onset Group B Streptococcal infection:

- 15% of all UK pregnancies have one or more risk factor
- 60% of all UK EOGBS cases have such risk factors
- Some risk factors carry a higher odds ratio for developing EOGBS than others
- For every 10,000 pregnancies there will be approximately 20 cases of GBS and 2 neonatal deaths
- To prevent 1 case approximately 625 women will need treatment
- To prevent 1 death approximately 5882 women will need treatment. This can be compared with prophylactic corticosteroids given prior to preterm birth when only 23 women need treating to prevent 1 death.
- The incidence of severe anaphylaxis associated with the use of penicillin in labour is estimated to be 1 in 10,000. Fatal anaphylaxis is estimated to occur in 1 per 100,000 cases treated. Fetal effects of severe anaphylaxis are poorly understood.
- Widespread use of antibiotics will contribute to the development of resistant organisms
- Intrapartum prophylaxis will inevitably increase the medicalisation of labour
- There is a possibility that exposure to antibiotics in the neonatal period may affect neonatal faecal flora and impact on immune development and later allergy

Documentation Control

Reference Number: UHDB/Obst/04:21/G2	**Version:** **UHDB V1**		**Status: FINAL**	
	Royal Derby prior to merged document:			
Version / Amendment	Version	Date	Author	Reason
	1	Aug 2006	Miss RJ Hamilton, Consultant Obstetrician	New
	2	Oct 2011	Mrs K Dent, Consultant Obstetrician Dr M Chester, O&G Registrar	Review & update
	2b	Dec 2016	Maternity Development	Maintenance dose Benzylpenicillin increased only
	3	Jan 2017	Mrs K Dent – Consultant Obstetrician Cindy Meijer – Risk Support Midwife	Review & Update
	3.1	May 2017	Maternity Guideline Group Julia Lacey – Lead Pharmacist	Synchronised with Antibiotics guideline
	3.2	August 2019	Maternity Guideline Group	Review in line with NEWTT
	Burton Trust prior to merged document:			
WC/OG/26	5	Aug 2016	Mrs K Anwar – Consultant Obstetrician	Update
Version control for UHDB merged document:				
UHDB	1	Feb 2021	Cindy Meijer – Risk Support Midwife Dr N Ruggins – Consultant Neonatologist	Merged. ABX prophylaxis for all preterm births. NEWTT aligned.
	1.1	Dec 2022	Cindy Meijer	Added sentence to refer to the GBS3 trial commenced
Intended Recipients: All staff with responsibility for caring for women in labour				
Training and Dissemination: Cascaded through lead sisters/midwives/doctors; Published on KOHA; NHS mail circulation list; Article in business unit newsletter				
To be read in conjunction with: Management of the Newborn infant in the event of GBS infection (G3) GBS3 trial document				
Consultation with:	Antimicrobial pharmacist/Microbiologist and Paediatrician			
Business unit sign off:	06/04/2021: Maternity Guidelines Group: Miss S Rajendran – Chair 15/04/2021: Maternity Governance Committee/CD - Mrs K Dent 21/04/2021: Neonatal sign off – Dr N Ruggins			
Division sign off:	27/04/2021			
Implementation date:	04/05/2021			

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