GUIDELINES FOR REDUCING RISK OF NEONATAL GROUP B STREPTOCOCCAL (GBS) INFECTION

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Key Amendments

Date	Amendment	Approved by
19th Nov 2020	Document extended for 1 year	Paediatric QI/Dr J West
26th March 2021	Approved with no amendments	Paediatric QIM
9th February 2024	Approved with no amendments	Paediatric Guideline Review Day

Introduction

Group B Streptococcal infection is a serious and potentially preventable cause of neonatal morbidity and mortality. These guidelines are designed to be used in conjunction with WAHT-OBS-002 Guideline for the management of women with Group B Streptococcal Infection for the prevention of neonatal infection (A9/D11). The background rate of neonatal early onset Group B strep infection is around 1:1000. With the selective screening and treatment policy advocated by the maternity service, we have in the past had a low threshold for treating babies at increased risk. This approach has led to longer than necessary admissions, the use of unnecessary antibiotics and all the associated risks. In recognition of this these revised guidelines advocate a higher threshold for automatic treatment, and are in keeping with the latest advice from the Centre for Disease control and the American College of Obstetricians and Gynaecologists. They are also consistent with the advice contained in NICE guidance CG149 Antibiotics for early onset neonatal infection. For medium risk we advocate discussion with the parents about the risks and benefits of antibiotic treatment rather than a rigid protocol, whilst recognising that the patient decision will be influenced by the severity of the previous neonatal streptococcal infection.

Patients Covered

All infants born in Worcestershire Acute Hospitals NHS Trust at increased risk of early onset Group B Streptococcal infection which include the following:

- Maternal Chorioamnionitis
- Group B Strep on vaginal swab during current pregnancy
- Group B Strep in urine during current pregnancy
- Spontaneous preterm labour
- Preterm prelabour rupture of membranes
- Prelabour rupture of membranes at term >24hours
- Previous child affected by GBS disease

If there are any situations where the appropriate intervention is not clear, please seek senior advice.

Guideline

Assess risk of GBS for the infant and decide appropriate treatment:

1. High risk

- SIGNS OF SEPSIS IN BABY –One red flag or two or more non red flag signs/symptoms - see list of signs/symptoms on page 5
- SIGNS OF CHORIO AMNIONITIS IN MOTHER :
- Chorioamnionitis is defined as: maternal fever >38.0 C plus at least two of: maternal tachycardia (>100 for at least 5 min), uterine tenderness, fetal tachycardia (>160 for at least 5 min), foul smelling amniotic fluid. This diagnosis will normally be made by the obstetricians or midwives
- PRETERM LABOUR and PRETERM PRELABOUR RUPTURE OF MEMBRANES <34 WEEKS plus at least one sign/symptom – see list on page 5 below
- Parenteral antibiotic treatment given to the woman for confirmed or suspected invasive bacterial infection (such as septicaemia) at any time during labour, or in the 24-hour periods before and after the birth [This does not refer to intrapartum antibiotic prophylaxis]

Suspected or confirmed infection in another baby in the case of a multiple pregnancy

1. Infection Screen Generally includes blood culture, CRP, FBC and differential. Chest radiograph for respiratory symptoms Lumbar puncture at registrar's discretion after clinical assessment. (NB: Lower threshold if suspected chorioamnionitis)
2. Commence I.V. antibiotics within one hour. I.V antibiotics will be Penicillin 12 hourly and Gentamicin 36 hourly according to the unit protocol (but may be given more frequently in certain circumstances- see gentamicin guideline). Do not wait for investigation results before commencing antibiotics
3. If there are any clinical concerns check baby's full blood count and CRP at 24 hours
4. Review blood culture results and need for continued antibiotics at 36 hours
5. Blood cultures may be considered "negative" 36 hours after they were taken if there has been no reported growth within this time. This applies even if the time in the incubator was <36 hours (but >24 hours).

- **Medium Risk: increased from 1:1000 to approx 1:100**
- PREVIOUS CHILD AFFECTED BY INVASIVE GBS DISEASE

IV Antibiotic given >4hrs before delivery to mother

Action:
CLOSE OBSERVATION FOR 24 HOURS- see below

I.V. Antibiotic given <4hrs before delivery or not given to mother

Action:
Carefully examine baby and treat appropriately after discussing with parents the risks and benefits of antibiotic treatment or observation only

3. Low risk :increased from 1:1000 to 1:300

- Maternal group B streptococcal colonisation, bacteriuria or infection in the current pregnancy
- Prelabour rupture of membranes at term >24h
- Preterm birth following spontaneous labour (34 to 37 weeks' gestation)
- Suspected or confirmed rupture of membranes for more than 18 hours in a preterm birth
- Intrapartum fever higher than 38°C

NB Two or more of these features will increase risk level from low to high – if in doubt

I.V. Antibiotic given >4hrs before delivery to mother	I.V. Antibiotic given <4hrs before delivery or not given to mother
Action:	**Action:**
NORMAL CARE	**ADVISE CLOSE OBSERVATION ON POSTNATAL WARD FOR MINIMUM OF 12 HOURS Observation should include measurement of temperature (normal axillary temperature is >36.4 and < 37.6) , pulse, respiratory rate and effort and assessment of feeding. These should be done at 0,1,2,4,6,8,10 and 12 hours of age** **Rationale : 90% of early onset GBS presents in the first 12 hrs of life (investigate if any symptoms or signs of early infection develop)**

ALL BABIES DO NOT NEED TO BE ADMITTED TO NICU OR SCBU

Possible signs and symptoms of early onset sepsis

NB Those listed in red require immediate antibiotic treatment
Otherwise two or more features should prompt consideration of antibiotic treatment

Altered behaviour or responsiveness
Altered muscle tone (for example, floppiness)
Feeding difficulties (for example, feed refusal)
Feed intolerance, including vomiting, excessive gastric aspirates and abdominal distension
Abnormal heart rate (bradycardia or tachycardia)
Signs of respiratory distress
Respiratory distress starting more than 4 hours after birth
Hypoxia (for example, central cyanosis or reduced oxygen saturation level)
Jaundice within 24 hours of birth
Apnoea
Signs of neonatal encephalopathy
Seizures
Need for cardio–pulmonary resuscitation
Need for mechanical ventilation in a preterm baby
Need for mechanical ventilation in a term baby
Persistent fetal circulation (persistent pulmonary hypertension)
Temperature abnormality (lower than 36°C or higher than 38°C) unexplained by environmental factors
Signs of shock
Unexplained excessive bleeding, thrombocytopenia, or abnormal coagulation (International Normalised Ratio greater than 2.0)
Oliguria persisting beyond 24 hours after birth
Altered glucose homeostasis (hypoglycaemia or hyperglycaemia)
Metabolic acidosis (base deficit of 10 mmol/litre or greater)
Local signs of infection (for example, affecting the skin or eye)

Monitoring and Compliance

This section should identify how the Trusts plan to monitor compliance with and the effectiveness of this Treatment pathway. It should include auditable standards and/or key performance indicators (KPIs) and details on the methods for monitoring compliance.

WHAT?	HOW?	WHO?	WHERE?	WHEN?
These are the 'key' parts of the process that we are relying on to manage risk.	*What are we going to do to make sure the key parts of the process we have identified are being followed?*	*Who is responsible for the check?*	*Who will receive the monitoring results?*	*Set achievable frequencies.*
Preseptal and Orbital Cellulitis in Children Audit all cases of preseptal/orbital cellulitis that proceed to surgery	Clinical Audit/Round Table Discussion	Paediatric Clinical Governance Group		
BCG vaccine should be offered to all babies identified as being at risk as highlighted in the introduction	Audit	Obstetric Governance Committee		
Ensure babies are correctly identified and treated	Continual vigilance and occasional audit	Consultant staff with neonatal interest	Directorate audit meetings	Biannually until proven that we have high success rates

References

- Prevention of early onset neonatal group B streptococcal disease: Royal College of Obstetricians & Gynaecologists. Guideline 36. November 2003.

- Prevention of perinatal group B Streptococcal Disease Revised Guideline from CDC,2010. Morbidity and Mortality Weekly Report. November 2010 : Vol 59 ; No RR-10

- Prevention of Early Onset Group B Streptococcal Disease in Newborns. Committee Opinion No 485. Obstetrics and Gynaecology Vol 117, No 4 ; April 2011

- Group B Strep Support The Facts 4 Health Professionals, available at www.gbss.org.uk

- NICE Guidance CG 149 Antibiotics for early onset neonatal infection August 2012