Achieving Sustainable Quality in Maternity Services

ASQUAM

Prevention of Early Onset Neonatal Group B Streptococcal Disease

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1. PURPOSE OF THE GUIDELINE

The purpose of this document is to provide guidance for obstetricians, midwives and neonatologists on the prevention of early-onset neonatal group B streptococcal (GBS) disease.

2. BACKGROUND

Group B streptococcus is recognised as the most frequent cause of severe early onset infection in neonates with an incidence in UK of 0.5/1000 births. Administration of intrapartum antibiotic prophylaxis (IAP) during labour has been associated with a reduction in early onset GBS disease (EOGBSD) but not late-onset disease.

A recent Cochrane review finds that giving intrapartum antibiotics is not supported by conclusive evidence. The review identified four trials involving 852 GBS (Group B Streptococcus) positive women. Three trials, compared intrapartum ampicillin or penicillin to no treatment and found no clear differences in newborn deaths although the occurrence of early GBS infection in the newborn was reduced with antibiotics.

Hence recommending IV antibiotics to all women in labour who are GBS positive will put a large number of women and babies at risk of adverse effects e.g. fatal anaphylaxis, increase in drug-resistant organisms and the medicalization of labour and the neonatal period unnecessarily without added benefit.

3. RECOGNITION AND ASSESSMENT

Group B *streptococcus* bacterial infections in neonate are present as respiratory disease, general sepsis, or meningitis within the first week. The mortality from early-onset GBS disease in the UK is 6% in term infants and 18% in preterm infants.

Risk factors for maternal treatment are:

- Previous baby affected by GBS
- GBS bacteriuria detected during the current pregnancy

2 or more of the following present:-

- Preterm labour (< 37 weeks)
- Prolonged rupture of the membranes (>18hours)
- Fever in labour (>38 ◦c)

- GBS on vaginal swab in current pregnancy (particularly in third trimester)

The argument for prophylaxis becomes stronger in the presence of two or more risk factors.

Routine screening (either bacteriological or risk based) for antenatal GBS carriage is not recommended.

Antenatal prophylaxis with oral penicillin on incidental detection of GBS in HVS does not reduce the likelihood of GBS colonisation at the time of delivery and so is not indicated in this situation.

4. TREATMENT AND MANAGEMENT

4.1 Intrapartum antibiotic prophylaxis is 80% effective at preventing early-onset GBS disease

If GBS is present in a vaginal swab as an incidental finding, it is difficult to quantify the risk of neonatal disease. If swabs have been taken at 35–37 weeks, a risk of disease of only 1/500 may be assumed (UK incidence 0.5/1000; approximately 25% women are carriers).

Intrapartum antibiotic is hence justified and recommended for the following scenarios.

1. Women with GBS urinary tract infection during pregnancy should receive appropriate treatment at the time of diagnosis as well as antibiotic prophylaxis.

2. Intrapartum antibiotic prophylaxis should be offered to women with a previous baby with neonatal GBS disease. The probable increase in risk may be due to low levels of maternal anti-GBS antibodies.

3. Intrapartum antibiotic prophylaxis should be offered in presence of two or more risk factors for EOGBS:

   · GBS on vaginal swab in current pregnancy
   · Fever ≥ 38◦ c during labour.
   · Prematurity <37 weeks.
   · Rupture of membranes >18 hours in labour.

There is no good evidence to support the administration of intrapartum antibiotic prophylaxis to women in whom GBS carriage was detected in a previous pregnancy or to women undergoing planned caesarean section.

The incidence of severe anaphylaxis associated with the use of penicillin in labour has been estimated at 1/10,000 women treated and that of fatal anaphylaxis has been estimated to occur in a 1/100,000 women.

4.2 Prescribing Regimes and Nomo gram

If antibiotic prophylaxis is to be used penicillin G should be administered as soon as possible after the onset of established labour and at least 2 hours before delivery.

" **Penicillin G 3 gm IV followed by 1.5 gm 4 hourly**"

"OR"

" **Intravenous clindamycin 900mg 8–hourly those women allergic to penicillin**".

If chorioamnionitis is suspected, broad-spectrum antibiotic therapy including an agent active against GBS should replace GBS-specific antibiotic prophylaxis

4.3 Management of the newborn infant :

90% of cases of early-onset GBS disease present by 12 hours of age.

Newborn infants with clinical signs of early-onset GBS disease should be treated promptly with the necessary antibiotics the signs are:

- grunting/tachypnoea/respiratory distress
- pallor/cyanosis
- lethargy
- irritability
- poor feeding
- tachycardia/bradycardia

- hypotension

Postnatal antibiotic prophylaxis is not recommended for low-risk term infants.

It is not necessary to perform routine surface cultures or blood cultures on well infants.

In neonates whose mother had a previous infant with GBS /more than 2 risk factors for GBS.

a. Clinical evaluation after birth and observation for at least twelve hours are necessary,

OR

b. Blood cultures should be obtained and the infant treated with penicillin until the culture results are available

4.4 Algorithm

Algorithm is attached at the end of the guideline (Appendix 1)

5. DOCUMENTATION/RECORD KEEPING REQUIREMENTS

GBS detected on HVS and or MSU

- Fax report to GP surgery and inform community midwife.
- Letter to patient with information leaflet
- Hospital midwife to update medical notes with alert labels

6. MONITORING AND AUDIT

6.1 Audit Standards

The need to audit the standard set out below will be considered alongside other Directorate requirements and prioritised accordingly. The Directorate Clinical Audit programme is drafted by the Directorate Clinical Auditor, in liaison with clinical staff, and approved by the Directorate, Divisional and Trust Clinical Governance Committees. Results of audits will be presented at the Directorate Business, Performance and Clinical Governance meeting who will consider the recommendations, approve the actions to be taken and agree subsequent monitoring arrangements

- Documentation of the management of a newborn where there is known group B haemolytic streptococcus present in either mother or newborn.

7. REFERENCES

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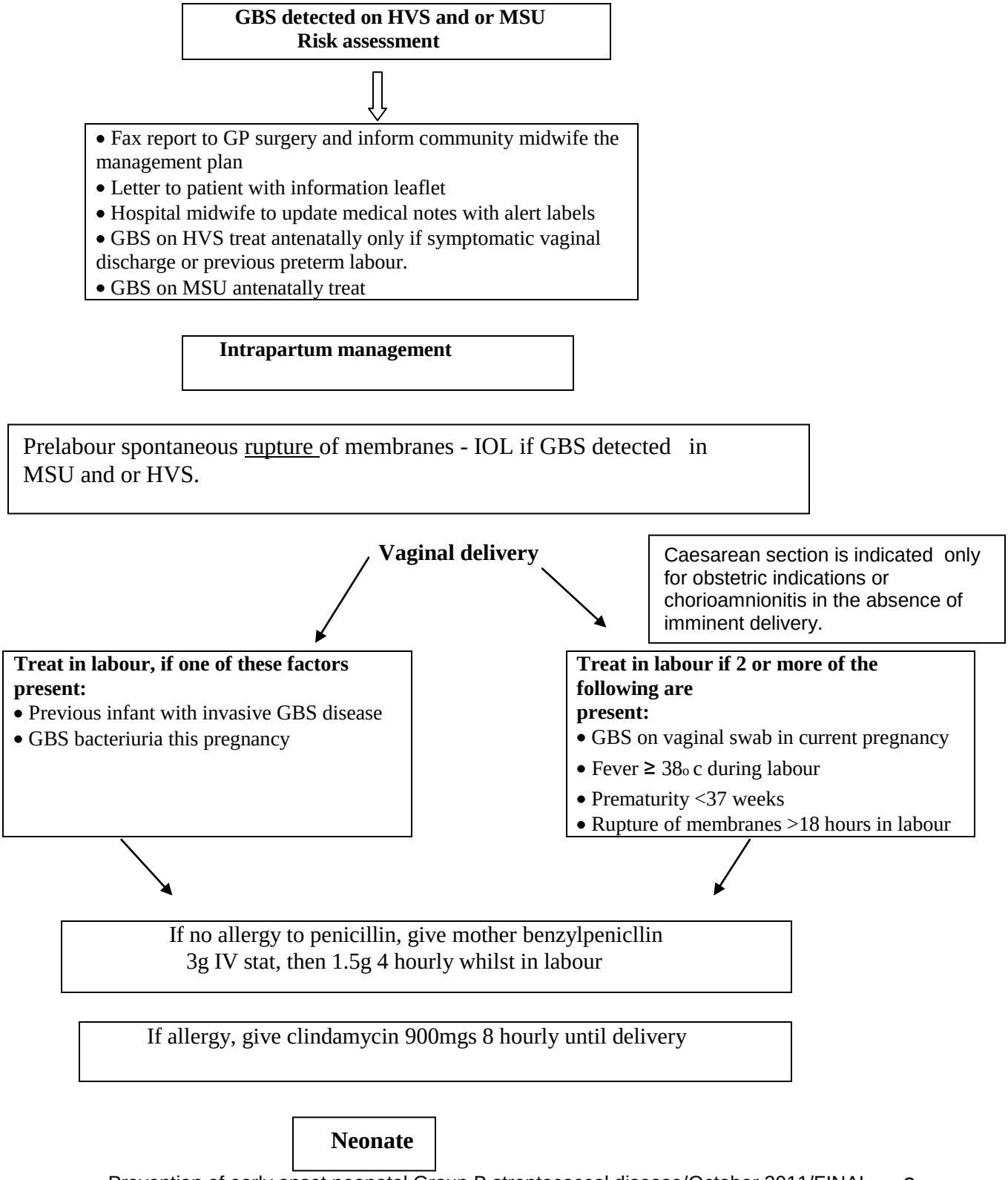
Appendix 1

An Algorithm for the Prevention of Early Onset Neonatal Group B Streptococcal Disease



No signs of neonatal sepsis

Routine postnatal antibiotic prophylaxis not indicated

In a term baby , if maternal antibiotics were indicated but not given appropriately (e.g atleast 4 hours delivery),observe for 12 hours and discharge if baby remains well. Observation does not need admission to neoenatal unit.

In a preterm neonate whose maternal antibiotics were indicated but not given appropriately do limited septic screen (FBC, CRP, blood culture),start penicillin and gentamycin and review after 48 hours with culture results

Signs of neonatal sepsis

If signs of neo-natal sepsis perform a septic screen that includes FBC, CRP, blood culture, surface swabs, urine culture, CXR, lumbar puncture and empiric treatment with benzylpenicillin and gentamycin . Duration of therapy based on clinical assessment, results and local policy.

The following are NOT indications for antibiotics

- Vaginal GBS before labour if mother asymptomatic
- Vaginal GBS in previous pregnancy
- Term rupture of membranes not in labour.
- A well baby > 12 hours after delivery, even if risk factors present.90% of babies with early GBS will have signs within 12 hours