Worcestershire Acute Hospitals NHS Trust

Preterm Prelabour Rupture of Membranes (PPROM) i.e. confirmed loss of liquor at <37+0 weeks gestation

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Key Amendments

Date	Amendments	Approved by

Introduction

Preterm prelabour rupture of membranes (PROM) is defined as a spontaneous rupture of the membranes prior to the onset of regular uterine contractions in any pregnancy of less than 37 weeks gestation. PPROM complicates 2% of pregnancies but is associated with 40% preterm deliveries. Approximately 70% of women commence labour within 24 hours; 80-90% by 48 hours; and up to 97% within seven days.

There is an association between ascending infection from the lower genital tract and PPROM. In women with PPROM about one third of pregnancies have positive amniotic fluid cultures.

Competence required

Medical staff – middle grade and above.

Patients covered

All women admitted with preterm prelabour rupture of membranes (PPROM).

Exclusions

Women known to be carriers of Group B Streptococcal infection

Initial assessment and management

- Check maternal observations; temperature, pulse & blood pressure. Measure and plot SFH on GROW chartEnsure SFH Measurements done appropriately. Need to measure SFH if not done within last 2 weeks
- Ascertain presentation of fetus abdominally – if uncertain / or non-cephalic presentation confirm by scan and confirm presence of fetal heart.

Diagnosis

- Confirm the diagnosis of PPROM by maternal history followed by use of sterile Speculum examination and or ROM Plus. See Appendix 1 for process
- Perform urine analysis+/-MSU.
- Ultrasound scan (USS) examination may be useful in some cases to confirm diagnosis. There are no randomised controlled trials to support the premise that pregnancy outcome is improved by the use of frequent USS or Doppler assessment and this should only be arranged after discussion with Consultant.
- HVS to be taken at this stage and performed weekly if decide on conservative management).
- FBC should be checked on admission and performed weekly if decide on conservative management.
- C reactive protein (CRP) may need to be considered on clinical grounds in certain circumstances.
- Check fetal heart with pinnard and perform CTG (Intermittent Auscultation if <26 weeks).

- AVOID VAGINAL EXAMINATION on assessment unless labour suspected or there is evidence of foetal distress.
- Inform Neonatal intensive care unit.
  Observe for infection: 4 hourly FHR, maternal pulse, temperature.

Counselling women with PPROM (as per preterm labour guideline)

- See Preterm Labour guideline for information regarding extremes of viability.
- Where expectant management is considered beyond 34 weeks of gestation, women should be counselled about the increased risk of chorioamnionitis and its consequences versus the decreased risk of serious respiratory problems in the neonate, admission for neonatal intensive care and caesarean section.

Prophylactic Antibiotic

- Antibiotics should only be prescribed if a definite diagnosis of PPROM has been made..Erythromycin 250mg 6 hourly for 10 days **(**if allergic to macrolides consult Consultant Microbiologist) Co amoxiclav is not recommended for women with PPROM because of concerns with necrotising enterocolitis.
- Antibiotics must be discontinued once delivered.
- Intrapartum antibiotic prophylaxis should be considered as prematurity and rupture of membranes >18 hours are risk factors for early onset GBS infection of newborn.
- If there are any signs of sepsis/ chorioamnionitis then delivery should be expedited and broad-spectrum antibiotics commenced intravenously after swabs and blood cultures have been taken. The antibiotics chosen should be effective against Group B streptococcus.

Steroids

There is strong evidence that maternal steroids reduced the incidence and severity of respiratory distress syndrome intraventricular haemorrhage and neonatal death and should be given when there is a high risk of preterm birth

- The recommended gestation range for giving maternal steroids is 24 to 34 weeks. Steroids may be used before this gestation at the individual instigation of a Consultants Neonatologist/Obstetrician. The benefits of administering steroids at 35 and 36 weeks are less than at earlier gestation, it is reasonable to give steroids at this gestation, but tocolysis should not be considered.
- Dose: In WAHT Betamethasone (12 mg, 2 doses 24 hrs apart) is a steroid of choice, Dexamethasone base (9.9mg, 2 doses 24 hours a part) can be used as an alternative if Betamethasone is not available
- The 2nd dose of steroids should be administered 24 hours after the first dose, but can be given between 12 and 24 hours if circumstances dictate this to be more practical.
- Diabetic women receiving steroids are at risk of hyperglycaemia. For these women steroids should be given in liaison with diabetic team
- There is no robust clinical evidence available to support repeat doses of steroid in pregnancy discuss with consultant neonatologist and obstetrician if 1st dose of steroids is given more than 8 weeks previously.
- Contraindications include sepsis, tuberculosis and porphyria. It should be used with caution in uncontrolled diabetes in liaison with diabetic team.

Sub-clinical sepsis may be the cause of PPROM, therefore steroid administration in women with PPROM should be considered very carefully and cautiously.

Tocolysis

Tocolysis should be considered for those women with PPROM **between 24^{+0} and 34 weeks gestation** who begin to contract during steroid administration and/or up to 12 hours after the second dose with a cervix <4cm dilated. Also it should be considered for women who need intrauterine transfer. (For dose see appendix A in Guideline for preterm labour). Currently there is no evidence that tocolysis after PPROM increases the interval between membrane rupture and delivery or neonatal morbidity.

Caution: PPROM could be associated with chorioamnionitis. Steroids/tocolysis should only be administered after excluding chorioamnionitis.

Conservative management

Outpatient management

- **Women with PPROM can be considered for outpatient conservative management only after rigorous individual selection by a consultant obstetrician and only if the baby is in the cephalic presentation.**
- Outpatient monitoring should be considered only after a period of 48–72 hours of inpatient observation. The aim is to prolong pregnancy to at least 34 weeks if safely possible.
- During this time women must be advised on signs and symptoms of chorioamnionitis (pyrexia, smelly or coloured discharge, decreased foetal movement, regular contractions).
- Weekly review on day assessment unit/ANC with FBC & LVS (low vaginal swab) should be performed.
- Women should check their temperature twice daily.
- Repeat USS for liquor volume assessment is not indicated. USS/umbilical artery Doppler may be required if there are concerns about fetal wellbeing.

Timing of Delivery

- Induction should be offered from 34 weeks gestation.
- If woman chooses to have expectant management beyond 34 weeks, she should be counselled about the increased risk of infection and its consequences versus the decreased risk of serious respiratory problems in neonates and the protocol for outpatient management should be followed.
- The timing and decision for delivery should be made by the Consultant after a case review.

Mode of delivery

- Aim for vaginal delivery.
- Caesarean section should only be performed for obstetric indications

Induction / Augmentation of Labour

Contra-indications to expectant outpatient management:

- Maternal pyrexia i.e. temperature over 37.5 C.
- Maternal tachycardia over 90 beats/minute.
- Foetal compromise (reduced foetal movements, IUGR).
- Abnormal fetal heart rate on auscultation followed by abnormal CTG.
- Meconium stained amniotic fluid.
- Ante-partum haemorrhage.
- Hypertension.
- Multiple pregnancy.
- Non-cephalic presentation.
- Foetal head more than 4/5 palpable.
- Transport difficulties to the hospital, women fail to keep appointments.
- Any clinical deviation from the norm should be reported to medical staff as the woman may not be appropriate for expectant management.

Appendix 1