Management of Pre-Labour Rupture of Membranes at Term (PROM)

Definitions

Pre-labour rupture of membranes (PROM) at term is defined as a rupture of the membranes prior to the onset of labour for women over 37 weeks' gestation.

60% of women will go into labour within 24 hours of PROM (NICE 2007). Furthermore, the NICE guidelines do not give us any evidence regarding numbers of women who will spontaneously labour after 24 hours.

There is high-level evidence that shows an increase in neonatal infection when membranes rupture at term before labour starts. This risk increases with the duration of membrane rupture and while neonatal infection is rare (about 1%), it is potentially serious and can result in death or disability.

Expectant management up to 24 hours shows no evidence of a significant increase in neonatal infection rates (NICE 2007).

In the absence of clinical signs of infection, there is no evidence to support the routine use of prophylactic antibiotics, irrespective of the duration of PROM (NICE 2007).

Diagnosis

- If there is a certain history of PROM then a speculum examination is not required. If the diagnosis is uncertain a speculum examination should be offered to confirm whether the membranes have ruptured.
- A digital examination should be avoided in the absence of strong regular contractions. It is important to remember that the incidence of maternal and neonatal infection has a direct correlation with the number of VE’s.
- Do not offer lower or high vaginal swabs or a maternal C-reactive protein (CRP) at this point unless clinical evidence of maternal or fetal infection.

Assessment

- A full antenatal assessment should be carried out including blood pressure, pulse, temperature, palpation and assessment of uterine activity.
- A note should be made of when the membranes ruptured noting the colour and amount of liquor draining.
- Assess fetal movement and heart rate at initial contact and then every 24 hours while the woman is not in labour.
- The woman should be asked to monitor her temperature every 4 hours at home as well as the colour of liquor, fetal movements and abdominal pain. She should be asked to present/call labour ward immediately in case of a recorded temperature >37.5°C, reduced fetal movements, change in the colour of liquor or continuous abdominal pain.
- For PROM more than 24 hours cardiotocograph monitoring is recommended at each contact and a CTG should be performed for at least 20 minutes
Management

1. **Expedited induction of labour** (Maternal choice, significant meconium or blood stained liquor, known GBS +ve, diabetes, evidence of maternal or fetal infection, reduced fetal movements)

2. **Induction of labour after 24 hours** (recommended)

3. **Expectant management beyond 24 hours**

Women should be counselled on presentation with PROM and be allowed to make an informed choice based on the following information:

- 60% of women will go into labour within 24 hours.
- Induction of labour is appropriate after 24 hours and recommended in this unit.
- Risk of neonatal infection increases following PROM in direct relation to the duration of PROM. There is however no significant increase if labour is induced at 24 hours following PROM.
- If birth is more than 24 hours after PROM, then women are required to stay in hospital for at least 12 hours after the birth so that the baby can be observed for signs of infection.

**Expedited Induction**

Women should be allowed to make an informed choice and opt for induction at presentation. There is evidence to suggest that this is associated with a reduced incidence of maternal infection. However, there is no significant difference in the incidence of neonatal infection when compared to induction at 24 hours PROM. The method of induction is the same as described in the next section. Immediate induction of labour should be advised in the presence of the following risk factors:

- Significant meconium or blood stained liquor
- Known GBS +ve
- Diabetes (Gestational and pre-existing)
- Evidence of maternal or fetal infection
- Reduced fetal movements

In these cases induction of labour with oxytocin (Syntocinon®) should be recommended.

For women needing or requesting expedited induction should be counselled that their induction may not happen immediately. We would aim to commence the induction only once a midwife was available for one to one care.

**Induction of labour at 24 hours**

Induction of labour at 24 hours post PROM is the recommended pathway for low risk women. It should be commenced at anytime after 24 hours when there is availability on the maternity unit to safely facilitate this option. Women should be counselled at the initial contact that the induction may not commence at 24 hours post PROM and that they may have to wait for the next convenient time.

- A full antenatal assessment should be carried out including Blood pressure, Pulse, Temperature, urinalysis, palpation and assessment of uterine activity and a CTG performed. This assessment should ideally take place on the labour ward/triage area. However, during periods of increased activity this may occur on the antenatal ward to prevent delays.
• A vaginal examination should be performed using an aseptic technique.

a. If Bishops score is less than or equal to 5, then 1mg Dinoprostone vaginal gel should be administered. This should be prescribed by an Obstetrician (SpR and above).

A CTG should be performed 20 minutes prior to and for 1 hour after Dinoprostone gel administration.

The woman should then be encouraged to mobilize where appropriate.

Women should be informed to report back if contracting strongly, continuous pain, bleeding, reduced fetal movements or change in liquor colour.

Oxytocin (Syntocinon®) should be commenced as soon as possible after 6 hours unless labour has established.

Dinoprostone gel should not be administered in the presence of a uterine scar. (NICE 2008)

b. If Bishops score is more than or equal to 6 then oxytocin (Syntocinon®) augmentation is advisable. Please click here to view Management of Delay in Labour and Oxytocin (Syntocinon®) REGIME

c. If the fore-waters are found to be intact at initial assessment an ARM should be performed. This may be followed by a period of mobilisation for 2-4 hours if appropriate. Oxytocin (Syntocinon®) may then be commenced if labour has not established.

d. In VBAC’s, oxytocin (Syntocinon®) may be commenced in individual cases after discussion with the Obstetric Consultant on call.

Expectant Management

After being counselled a woman may opt to wait for the onset of labour. After the initial assessment the patient must be reviewed every 24 hours. An LVS may be appropriate in these cases.

The first 24 hour review must be performed by the SpR on call who should ensure that the woman has been counselled appropriately.

A 20-30 minute CTG performed at the first and each subsequent 24 hour review.

The woman should be asked to monitor her temperature every 4 hours at home as well as the colour of liquor, fetal movements and abdominal pain.

She should be asked to present/call labour ward immediately in case of a recorded temperature >37.5°C, reduced fetal movements, change in the colour of liquor or continuous abdominal pain.

At the agreed time of induction the previously mentioned guidelines should be followed.

Monitoring in Labour

For PROM less than 24 hours intermittent auscultation of the fetal heart is appropriate if labouring spontaneously.

For PROM more than 24 hours continuous CTG monitoring is recommended. Clinicians should be aware of the possibility of CTG abnormalities (variable decelerations) due to cord compression. Assessment of the CTG should be made in line with the Fetal Monitoring Guideline, please click here to view.
Maternal observations should be done in line with the Care of Women in Labour Guideline, please click here to view. Particular care should be taken when assessing pulse and temperature.

**Maternal Infection**

If there is evidence of infection (maternal pyrexia >37.8°C/tachycardia, fetal tachycardia, uterine tenderness, abnormal vaginal discharge) at any point before or during the induction process, a senior obstetric review should be immediately requested. If not in labour, immediate induction or delivery by caesarean section may be appropriate depending on the individual circumstances.

A partial septic screen should be performed (FBC, CRP, Blood cultures, HVS, MSU) if infection is clinically suspected and intravenous antibiotics commenced.

Other methods should be employed to reduce the maternal temperature quickly (Paracetamol, tepid sponging, fan), as persistent maternal pyrexia is associated with poor neonatal outcomes.

The antibiotics of choice are Cefuroxime 750mg 8 hourly IV and Metronidazole 500mg 8 hourly IV. These should be continued for at least 24 hours post delivery followed by a course of Cefalexin 500mg TDS PO and Metronidazole 400mg orally TDS PO for 5 days. In case of a previous history of penicillin anaphylaxis, Clindamycin 900mg 8 hourly IV may be used in preference to Cefuroxime.

If there are any doubts regarding antimicrobial therapy the on call microbiologist should be contacted for advice.

**Neonatal follow-up in PROM > 24hrs –** (Please click here to view Guidelines for Babies born following Prolonged Rupture of Membranes)
References


3. NICE (2007) Intrapartum Care: Care of Healthy Women and Their Babies During Childbirth.