NHS
Lanarkshire

Guideline for the treatment of preterm labour

Introduction

Preterm labour (PTL) is defined as uterine contractions with cervical effacement and dilatation between 24 and 37 completed weeks of gestation.
Also see related guideline ***Extreme Prematurity (22-26 weeks***).

Treatment of Preterm Labour

This depends on the gestational age of the infant and whether the membranes have ruptured.

In general, we are most concerned with preterm labour occurring between 22 and 33 weeks' gestation, inclusive. At 22 weeks' gestation or less, the outlook for the infant is poor and we do not usually give treatment to stop established preterm labour (see related guideline: ***Extreme Prematurity (22-26 weeks***). At 34 weeks' gestation or more, the outlook for the infant is good and we do not usually give treatment to stop preterm labour.

Preterm contractions - Membranes Intact

Initial assessment

- Review antenatal case notes (Badger), assess risks,
- Ask about the start, duration, strength and frequency of the contractions.
- Ascertain how painful are the contractions.
- Ask about vaginal loss (show, liquor or bleeding).
- Record pulse rate, blood pressure, temperature and perform urine analysis.

Abdominal examination

- Assess fundal height, lie, presentation of the fetus and palpate for assessment of contractions.
- Perform speculum examination.
- Fetal fibronectin testing, perform as per separate guideline if indicated
- Perform vaginal examination if the extent of cervical dilatation cannot be assessed.
- Send MSSU (and LVS if PTL confirmed)
- Send bloods for FBC, CRP (if indicated).
- USS for presentation if needed.

Contractions are best assessed by **palpation** rather than by the cardiotocogram. If the contractions are not painful and are occurring less frequently than once every 10 minutes, the woman may be observed.

Carry on monitoring the contractions for the **next two hours**. If the contractions are persistent then repeat examination (speculum examination, vaginal examination if needed) and if the cervix starts to **efface and dilate** within that two-hour period, **progressive preterm labour** is diagnosed.

Progressive preterm labour

Contractions are painful.
Evidence of cervical change including effacement and cervical dilatation.

Women between 22 and 29+6 weeks gestation
Also see related guideline ***Extreme Prematurity (22-26 weeks***)

Steroids
Administer two injections of Betamethasone 12mg intramuscularly, 24 hours apart
If delivery imminent consider 12 hours apart after discussion with consultant

Contraindicated Systemic infection including tuberculosis
Placental abruption

Use steroids with great caution in
- IDDM as steroids may lead to secondary hyperglycaemia and possible diabetic ketoacidosis (insulin sliding scale may be appropriate).
- Suspected chorioamnionitis.

Neuroprotection
Administer Magnesium Sulphate in PTL up to 29+6 weeks gestation
See separate guideline

GBS Prophylaxis
All patients with confirmed preterm labour, regardless of their GBS carrier status or the membranes conditions, should be offered intrapartrum GBS antibiotic prophylaxis (Please refer to NHS Lanarkshire guideline titled "GBS prophylaxis" for selection, regimens and dosage of antibiotics).

Tocolytic therapy
Before administering tocolytic therapy, the Consultant on call should be contacted and inform Neonatal unit.

Contraindications for tocolytics therapy

- Lethal congenital/chromosomal malformation
- Intrauterine infection
- Severe pre-eclampsia / eclampsia
- Antepartum haemorrhage
- Placental abruption
- Placenta praevia
- Advanced cervical dilatation($\geq$ 4cm)
- Evidence of fetal compromise or placental insufficiency

Nifedipine is recommended as the first line in the present NICE guideline. Atosiban is used only if Nifedipine is contraindicated.

<u>Nifedipine</u>
Nifedipine is a calcium -channel blocking agent which can inhibit contractions.

The intial dose is Nifedipine 20mg orally.
Provided there is no hypotension or fetal distress with this dose, it is followed later by Nifedipine 10-20 mg orally, 3 to 4 times daily adjusted to uterine activity. The main complications are maternal hypotension and fetal distress. Caution if systolic BP < 100mm Hg and a drop of more than 20%.

Do not use the slow-release preparation of Nifedipine.

Do not administer Nifedipine sub-lingually.

Contraindications include porphyria and significant cardiac disease.

<u>Atosiban</u>
If Nifedipine is contraindicated, oxytocin receptor antagonist (Atosiban) is to be administered intravenously.

Atosiban 6.75mg bolus injection intravenously over one minute, followed by an intravenous infusion:

Regimen for Atosiban Infusion:
Add 2 x 5ml ampoules (7.5mg/ml) to 90mls normal saline = 0.75mg/ml.

Dose	**Rate via Baxter Pump**
300 micrograms per minute	24mls/hour for 3 hours
then reduce to	
100 micrograms per minute	8mls/hour for 45 hours

Side effects include
- Nausea / vomiting (common)
- Tachycardia / Hypotension
- Headache / Dizziness

- Hot flushes
- Hyperglycaemia
- Injection - site reaction
- Less commonly, pruritis, rash, fever, insomnia

Indomethacin

This may be used at gestational ages less than 32 weeks.

If administered in pregnancies more than 32weeks' gestation, the risk of serious fetal complications is increased (due to the anti-prostaglandin effects) and include:

- Premature closure of the ductus arteriosus
- Renal failure
- Oligohydramnios
- Necrotizing enterocolitis
- Fetal haemorrhage

Indomethacin - Maternal contraindications

- Dyspepsia
- Asthma
- Allergy to non- steroidal ant-inflammatory drugs
- Significant renal disease

The dose is INDOMETHACIN 100mg rectally 12-hourly for 48 hours (maximum 4 doses).

Combination of Tocolytic Drugs

Before considering combinations of tocolytics drugs, the Consultant on call should be contacted.

It should always be possible in idiopathic preterm labour to inhibit uterine contractions, even if the cervix is fully dilated. If the membranes have ruptured, or there is antepartum haemorrhage or evidence of chorioamnionitis it may not be possible, or desirable, to inhibit preterm labour.

In idiopathic preterm labour, if one tocolytic drug given in its maximum dose does not inhibit preterm labour, a combination of drugs should be used. Suitable combinations are:

Atosiban and Indomethacin

The Atosiban should be infused at 18mg/hour, and the gestational age should be less than 32 weeks.

Atosiban and Nifedipine

The Atosiban should be infused at 18 mg/ hour. The woman's systolic blood pressure before considering Nifedipine should be >100 mm Hg.

Women 30 – 34 weeks of gestation and to 37 Completed weeks:

The management is the similar as for earlier PTL.

Magnesium sulphate
We currently do not yet recommend MgSO4 at gestations $\geq$ 30 weeks

Steroids
We recommend steroids as above for all PTL between 30-34 weeks
Between 34-37 weeks this should be decided by consultant

GBS Prophylaxis
All patients with confirmed preterm labour, regardless of their GBS carrier status or the membranes conditions, should be offered intrapartrum GBS antibiotic prophylaxis (Please refer to NHS Lanarkshire guideline titled "GBS prophylaxis" for selection, regimens and dosage of antibiotics).

Tocolytic therapy
This is recommended between 30-34 weeks gestation only.
The same medications and protocols as above.
We do NOT use indomethacin above 32 weeks

Miscellaneous

Transvaginal ultrasound (TVS)
Discuss with consultant whether cervical length measurement is recommended
If it is unlikely to change management then it is not required

Fibronectin test
Refer to the separate guideline on fetal fibronectin testing for indications, contraindications and management options depending on results

Vaginal swabs
Do not do "routine" vaginal swabs.
Do vaginal swabs if PTL is confirmed or there is a clinical indication

Terminology

Suspected preterm labour: The woman reports symptoms of preterm labour and has had clinical assessment (including S/E or VE) that confirms the possibility of preterm labour but rules out established labour.

Diagnosed preterm labour: The woman reports symptoms of preterm labour and has had a positive diagnostic test for preterm labour (see diagnostic test above).

Progressive preterm labour : The woman reports symptoms of preterm labour with contractions being persistent and painful and there is evidence of cervical change including effacement and cervical dilatation.

Established preterm labour: A woman is in_established preterm labour if she has regular painful contractions and has progressive cervical dilatation from 4 cms.

Reference

NICE guideline Preterm labour and birth. Published: 20 November 2015
nice.org.uk/guidance/ng25

NICE guideline Intrapartum care for healthy women and babies, Clinical guideline [CG190] Published date: December 2014 Last updated: February 2017

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