Preterm Labor 1 (No risk factors)

Patient with symptoms of PTL (< 34 weeks' gestation)[1]:
- persistent contractions w/ pelvic pressure/backache
- regular uterine contractions on external monitor
- increased vaginal discharge
- vaginal spotting/bleeding

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Physical examination:
1) Assess for evidence of pertinent ob conditions (i.e. chorioamnionitis/ROM/abruption)
2) Check FHR and contraction monitor
3) Perform basic ultrasound (unless previous U/S done at UNC within the last 2 weeks) for fetal size, presentation, AFI and placental location

DEFER CERVICAL EXAMINATION!

suspect PPROM → Do sterile speculum examination
- PPROM confirmed → Admit and initiate PROM protocol
- No PPROM → (to fibronectin/cultures box)

No PPROM ↓

1) Obtain and hold fetal fibronectin if < 32 weeks
2) Obtain GBS cultures (send for clindamycin sensitivity if severe PCN allergy)
3) Do cultures for GC/chlamydia if clinical suspicion for disease, or cultures not yet performed
4) Check cervix after these are completed

SVE > 3cm / 80%[2] →

1) Admit to L&D
2) Evaluate for maternal and fetal contraindications to tocolysis? (i.e. severe preeclampsia, abruption, etc)

- contraindications present → No tocolysis
- no contraindications → Initiate tocolysis (see below)

SVE ≤ 3cm / 80% → Send fetal fibronectin **OR** perform transvaginal ultrasound for cervical length[3]

TV US done →
- Is cervical length ≤ 30mm?
- Is there funneling of the internal os?[4]

Yes → Initiate tocolysis; No → Monitor ctx (below)

FFN sent →

1) Monitor ctx frequency and repeat SVE in 1 hr
2) Consider terbutaline 0.25mg SQ X 1 dose[5]

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Is there a change in dilation of 1 cm by the same examiner or has an effacement of > 80% been found?

Yes → Initiate tocolysis

No ↓

- Is the patient still contracting regularly?
- Is the FFN positive?

Yes → Initiate tocolysis

No → D/C home with labor precautions and follow-up appointment in a week

1) Initiate tocolysis:
   - If ≤ 30 weeks, consider indomethacin 50mg PO, then 25 mg PO q 6hrs X 48 hrs[6] (add antacid of choice, i.e. Zantac 300mg PO qhs)
   - If > 30 weeks, start $MgSO_4$: 4- 6g IV bolus, then 2 - 4g IV infusion per hr)
2) Start steroids for fetal lung maturity:
   - betamethasone 12mg IM Q 24 X 2 doses OR
   - dexamethasone 6mg IV/IM Q12 hr X 4 doses)
3) Start antibiotics for GBS prophylaxis according to GBS protocol

→

1) Continue tocolysis for at least 6hrs, until contractions have reached baseline of < 4/hr, or until a total of 24 hrs on L&D have elapsed
2) Stop antibiotics when transferred to antenatal unit[7]

Approved 12/2002

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1) Iams JD. **Preterm Birth in Obstetrics Normal and Problem Pregnancies, 4th ed. Churchill Livingstone, New York, 2002.** *The diagnosis of preterm labor is traditionally made when persistent uterine contractions are accompanied by dilation and/or effacement of the cervix detected by digital exam. Symptoms of preterm labor are nonspecific: pelvic pressure, increased vaginal discharge, backache and menstrual-like cramps.*

2) Macones GA, Segel SY, Stamilio DY, et al. Prediction of delivery among women with early preterm labor by means of clinical characteristics alone. **Am J Obstet Gynecol 1999;181:141-8.** *Among symptomatic women, the best clinical predictors of preterm delivery within 24 hrs to 7 days include initial cervical dilation greater than 3cm or effacement of 80% or more, vaginal bleeding and ruptured membranes*.

3) Iams JD. **Preterm Birth in Obstetrics Normal and Problem Pregnancies, 4th ed. Churchill Livingstone, New York, 2002.** *Women whose cervical dilation is less than or equal to 2 cm and/or whose effacement is less than 80 percent present a diagnostic challenge. Diagnostic accuracy may be improved in these patients with transvaginal sonographic measurement of cervical length, and/or testing for fetal fibronectin.*

4) Leitich H, Brunbauer M, Kaider A, et al. Cervical length and dilatation of the internal cervical os detected by vaginal ultrasonography as markers for preterm delivery: a systematic review. **Am J Obstet Gynecol 1999;181: 1465-72.**
Cervical length and dilatation of the internal cervical os (funneling) detected by transvaginal ultrasound are among the most effective markers for preterm delivery in patients with symptoms of preterm labor…..A cervical length of < 30 mm or a dilatation of the internal cervical os will identify 80%-100% of women or 70%-100% of women [respectively] who will subsequently have a preterm delivery, thus both parameters appear to be useful criteria for hospitalization and more intensive obstetric care.

5) Guinn DA, Goepfert, AR. Management option in women with preterm uterine contractions: A randomized clinical trial. **Am J Obstet Gynecol 1997; 177:814-18.**
The efficacy of a single dose of subcutaneous terbutaline was tested in a randomized trial with IV hydration and observation alone in 179 singleton gestations. All subjects had intact membranes, more than 3 contractions in 30 minutes, cervical dilatation of less than or equal to 1cm and effacement of more than 80%. Results showed no benefit in the use of IV hydration. Pregnancy outcome was not affected by the use of 1 dose of subcutaneous terbutaline, but it resulted in the shortest length of triage stay.

6) Macones GA, Marder SJ, Clothier B, Stamilio DM. The controversy surrounding indomethacin for tocolysis. **Am J Obstet Gynecol 20001;184: 264-72.**
The available literature seems to support that indomethacin is reasonably effective in delaying delivery for at least 48 hr, for 7-10 days, and beyond 37 weeks, [and] may also decrease the incidence of low-birth-weight neonates…A strategy of indomethacin tocolysis, compared with no tocolysis, results in a lower number of major neonatal morbid events, at 24 weeks, [it] would likely reduce the number of major neonatal morbid events by >150/1000 women. At 32 weeks, [it] reduced the rate of neonatal morbid events by 80/1000 women in comparison with no tocolysis.

7) Centers for Disease Control and Prevention. Prevention of Perinatal Group B Streptococcal Disease. **MMWR 2002; 51:1-18.** *Intrapartum antibiotic prophylaxis for GBS should be provided pending culture result, but if a negative culture result within the previous 4 weeks is on record, or if labor can be successfully arrested and preterm delivery averted, antibiotics should not be initiated…No data are available on which to recommend a specific duration of antibiotic administration for GBS-positive women with threatened preterm delivery when delivery is successfully postponed. The management approach is left to the discretion of the individual provider.*

NOTIFICATION TO USERS

These algorithms are designed to assist the primary care provider in the clinical management of a variety of problems that occur in pregnancy. They should not be interpreted as ***standard of care*** but instead represent ***guidelines*** for the management of these patients. Variation in practice should be taken into account such factors as characteristics of the individual patient, health resources, and regional experience with diagnostic and therapeutic modalities. The algorithms remain the intellectual property of the University of North Carolina School of Medicine at Chapel Hill. They cannot be reproduced in whole or part without the ***expressed*** permission of the school.

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