PREVENTION OF PRETERM BIRTH - Progesterone

This LOP is developed to guide clinical practice at the Royal Hospital for Women. Individual patient circumstances may mean that practice diverges from this LOP.

1. AIM

- Reduction in preterm labour and premature birth
- Appropriate prescribing of progesterone

2. PATIENT

- Pregnant woman with asymptomatic sonographic evidence of cervical shortening or history of preterm birth (≤34 weeks) with singleton pregnancy

3. STAFF

- Medical and midwifery staff
- Ultrasonographer

4. EQUIPMENT

- Ultrasound machine

5. CLINICAL PRACTICE

- Review risk factors for preterm birth at the commencement of maternity care and recommend the most appropriate model of care. Risk factors include deep or repeated cervical excision, congenital uterine anomalies, ≥ 3 late miscarriages (14 to 20 weeks), previous preterm birth, previous second trimester loss, previous preterm prelabour ruptured membranes

Asymptomatic woman no past history of spontaneous preterm birth or second trimester loss

- Recommend universal transvaginal (TV) ultrasound measurement of cervical length at fetal morphology scan
- Consider transabdominal ultrasound screening adequate if closed portion of cervix internal to external os :
  - ≥ 35mm (providing clear imaging of cervix)
  - <35mm recommend TV imaging of the cervix
- Classify woman with cervical length < 25mm on TV ultrasound at 16-24 weeks at increased risk of preterm labour and arrange medical review
- Recommend use of progesterone pessaries, 200mg nocte until 34 weeks gestation, birth or prelabour rupture of membranes, if the cervix is <25mm at 16-24 weeks
- Arrange consultant review and discuss the options of cerclage or progesterone if the cervix is <10mm at the morphology ultrasound
- Arrange follow-up in one week and document plan in medical record (optimal management with progressive shortening despite progesterone remains uncertain)
- Advise woman of risk and implications of preterm birth. Educate on signs and symptoms of preterm birth and what to do if concerned

Asymptomatic woman with previous spontaneous preterm birth(s)

- Consider use of progesterone pessaries 200mg nocte until 34 weeks gestation, birth or prelabour rupture of membranes regardless of cervical length
- Recommend history indicated cervical cerclage for a singleton pregnancy with a history of at least 3 late miscarriages or preterm deliveries
- Recommend TV cervical length at morphology ultrasound

PREVENTION OF PRETERM BIRTH – Progesterone cont'd

- Consider repeat cervical length screening between 16 and 24 weeks gestation if initial cervical length is >25mm and the previous spontaneous preterm birth was <34 weeks gestation if cerclage has not been performed
- Arrange prompt consultant review if the cervical length is < 25mm on ultrasound and woman has a history of spontaneous preterm birth or mid-trimester loss between 16^{+0} and 34^{+0} weeks to discuss cerclage and or progesterone [8]
- Arrange follow-up and document plan in medical record

6. DOCUMENTATION

- Medical records

7. EDUCATIONAL NOTES

- Amongst women with preterm birth[1,2]:
  - 61.2% show cervical shortening,
  - 65.6% of these will have a combination of cervical shortening and a history of preterm birth
- Double-blinded □andomized control trials have shown vaginal progesterone can reduce the incidence of preterm birth in women with sonographic cervical shortening < 25mm[2,3]
- Systematic reviews and a meta-analysis have not shown any significant decrease in preterm birth using vaginal progesterone in multiple pregnancies with a shortened cervix[5,7.]
- However in women with a twin pregnancy (and by extrapolation of data, with a higher-order multiple pregnancy) and with a short cervical length (≤25 mm by transvaginal ultrasound between 16 and 24 weeks), vaginal progesterone therapy for prevention of spontaneous preterm birth is recommended (strong/moderate) [11]. Doses of 400mg have been recommended in some guidelines[13]
- Most studies of progesterone for a short cervix excluded women with a cervical length < 10mm
- Management of women on a progesterone regimen may be conducted on an outpatient basis thus decreasing hospital admissions. RHW pharmacy supplies progesterone pessaries to those being managed by an RHW obstetric team and unable to afford the cost of an outside prescription (progesterone is not on the Pharmaceutical Benefits Scheme (PBS) for cervical incompetence[10])
- Two formulations are available through RHW pharmacy with differing cost (there is insufficient evidence regarding the appropriate vaginal preparation):
  - Oripro® $3.52
  - Utrogestan® $1.80
- Side-effects of vaginal progesterone are minor and include fatigue, nausea, headaches, vaginal irritation and increased discharge[3]
- Other methods of preventing preterm labour have limited or no evidence as to efficacy e.g. bed rest, dietary supplements and antibiotics[5,6]
- Bed rest is not recommended to prevent preterm birth, in woman at increased risk of spontaneous preterm birth due to a previous preterm birth, short cervical length in current pregnancy, or a multiple pregnancy
- Cervical cerclage may be considered as an alternative management of a shortened cervix, to prevent preterm birth[3]
- There is no evidence for vaginal progesterone as a tocolytic for preterm birth[8]

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- Contraindications to vaginal progesterone administration[6,8]:
  - Hypersensitivity to progesterone
  - Undiagnosed vaginal bleeding
  - Severe hepatic dysfunction or disease
  - Known or suspected breast or genital tract cancer
  - Active arterial or venous thromboembolism or severe thrombophlebitis, or history of these events
  - Porphyria
- Other documented strategies to reduce preterm birth include smoking cessation, and continuity of midwifery care[4]

8. RELATED POLICIES/ PROCEDURES/CLINICAL PRACTICE GUIDELINES

- Nifedipine for Tocolysis
- Management of Threatened Preterm Labour GL2020_009
- Australian College of Midwives (ACM) Guidelines for consultation and referral
- National Midwifery Guidelines for Consultation and Referral 2020 PD2020_08
- Twin pregnancy- antenatal care

9. RISK RATING

- High

10. NATIONAL STANDARD

- Standard 2 – Partnering with Consumers
- Standard 5 – Comprehensive Care

11. REFERENCES

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REVISION & APPROVAL HISTORY
Reviewed and endorsed Maternity Services LOPs 17/11/20 – previously titled *Progesterone Prevention of Preterm Laobur*
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