What to do with a short cervix?

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Pelham Staples Symposium
October 16, 2015
Disclosures

• I have no financial disclosures.
Objectives

• Define the short cervix and its implications in spontaneous preterm birth.

• Discuss therapeutic options for women who are found to have a short cervix.

• Discuss indications for cervical cerclage.
Why does it matter?

• Preterm birth – Leading cause of perinatal morbidity and mortality 5-18%

• Preterm birth – Over 500,000 births/year (US)

• Over $26 billion
The role of the cervix

- Gateway
- Mechanical barrier from infection
What is a short cervix?

How do we measure the cervix?
Technique

• Empty bladder
• Probe into anterior fornix
• Withdraw, then reapply
• Optimize image
• Measure hyper echoic area (EC canal)
• Apply fundal pressure
• Best shortest of 3-6 measurements.
Measurement of the Cervix

\[ \text{Funnel Length} \quad \text{(A)} \quad \text{Cervical Length} \quad \text{(B)} \]

- \( A \) is the Funnel Length.
- \( B \) is the Cervical Length.

\[ C_{\text{Ant Lip}} \text{ should} = C_{\text{Post Lip}} \]

Berghella, Ultrasound Obstet Gynecol 1997:10:161
Assessment of funneling

Frequency of CL surveillance

- (Serials) Every 2 weeks from 16-23 weeks
- Weekly for CL <30 mm
- Screening: 18-24 weeks
What conditions are associated with a short cervix?

- Congenital
  - DES, cervical dysgenesis
- Prior surgery
  - LEEP, CKC, D&C
- Intraamniotic infection/inflammation
- Progesterone deficiency
- Cervical insufficiency
- History of prior preterm birth
What are our treatment options?

• Pharmacologic
  – Progestogens
    • Progesterone (vaginal)
      – 90 mg gel
      – 200 mg vaginal suppository (Prometrium)
    – Exact mechanism is unknown
      • Anti-inflammatory
      • Local progesterone delivery

• Mechanical
  – Cerclage
Vaginal progesterone (Prometrium 200mg)

- 24,620 singletons screened
  - 20-24 weeks
  - CL < 15mm
  - PTL <34 weeks
    - 19% vs. 34% (RR 0.56; CI 0.36-0.86)
    - NNT = 7
  - Not large enough to see neonatal outcomes.

Vaginal progesterone (90 mg gel)

- Multicenter, double blind, placebo controlled
- 19-23 6/7 weeks, CL 10-20mm
- 465 participants
- PTL <33 weeks (primary)
  - 8.9% vs. 16.1% (RR 0.55; 95% CI 0.31-0.91)
  - PTL <28 weeks, <35 weeks
  - RDS (RR 0.39; 95% CI 0.33-0.99)

Cerclage

• Used for treatment of cervical insufficiency

• 3 main indications:
  – History indicated (prophylactic)
  – Ultrasound indicated
  – Physical exam indicated (emergency/rescue)
Cerclage types:

- Shirodkar
- McDonald
- Wurm
- Transabdominal cervicoisthmic

The superiority of one type or technique has not been established.
Cerclage

• Cerclage for short cervix with prior history of preterm birth has been shown to reduce delivery before 28, 30, 32, and 34 weeks and improve composite neonatal outcome.

• Neither antibiotics nor prophylactic tocolytics have been shown to increase efficacy.

Berghella. Obstet Gynecol 2011
What about twins and multiples?

- CL measurements may have different significance in this population.

- Cerclage may increase the risk of preterm birth in the setting of twins and CL <25mm.

- Progesterone treatment does not reduce incidence of preterm birth.
Case #1

- 22 yo G1 P0 at 21 weeks with history of LEEP was noted to have a CL of 8mm on follow up ultrasound.

- What would you do?
- Cerclage?
- Vaginal progesterone?
Singleton, no prior PTB, risk factors for cervical insufficiency

• No role for cerclage

• For CL below 20mm
  – Vaginal progesterone (200mg or 90 mg qhs until 36 weeks)
Case #2

• 35 yo G₄ P₂₀¹₂ at 20 weeks with uncomplicated obstetrical history, was noted to have a CL of 16mm on TVS after abdominal ultrasound suggested a short cervix.

• What would you do?
• Cerclage?
• Vaginal Progesterone?
Singleton, no prior PTB, no risk factors

- No role for cerclage.

- For CL < 20mm
  - Vaginal progesterone (either preparation) qhs until 36 weeks.

- Pessary is an option for CL <25mm.
  - Arabin
  - Smith-Hodge
Pessaries
Case #3

- 25 yo G₃P₀₂₀₁ at 18 weeks gestation on weekly IM 17-OHP noted to have 13 mm cervix on TVS.

- What would you do?
- Change progesterone to vaginal?
- Cerclage?
- Bedrest?
Singleton and Prior PTB

• Short cervical length (CL) before 24 weeks
  – CL of 15mm-25mm
    • Vaginal progesterone (either preparation)
    • Cerclage is option
  – CL < 15mm
    • Cerclage
    • Vaginal progesterone

• Ultrasound-indicated cerclage is as effective as history indicated cerclage
  – Avoids cerclage in 60% of cases.

Szychowski, et al. JMFNM 2012 Dec;25(12):2686-2689
Prior preterm birth on 17 OHP with short cervix prior to 24 weeks

- No evidence to change the form of progesterone or to add alternative form of progesterone.
- Cerclage may be offered for CL <15mm
- 17OHP may be continued

Szychowski, et al. JMFNM 2012 Dec;25(12):2686-2689
Summary

• We define a short cervix as <25mm (10%) in the midtrimester.

• As CL decreases, risk for preterm birth increases.

• Vaginal progesterone and cerclage are options for the treatment of the short cervix.
Summary

• The incidental short cervix in the midtrimester is **not diagnostic** of cervical insufficiency.

• Cerclage is **not indicated** for incidental short cervix in the midtrimester in the absence of a prior singleton preterm birth.
Summary

• **Vaginal progesterone** is the recommended management option to reduce the risk of preterm birth in
  – Asymptomatic women
  – Singleton gestation
  – No prior preterm birth
  – **Incidental** very short CL ≤20mm prior to 24 weeks
Summary

• No intervention has been shown to improve outcomes in multiples.

• Routine CL screening in multiple gestations is not recommended.
The End