IMPACTED FETAL HEAD: Second Stage Cesarean

SEBASTIAN HOBSYN
MD PhD MPH FRANZCOG FACOG FRCSC
MFM, Mt Sinai & UofT

Disclosures
Committee Opinion No. 415: Impacted Fetal Head, Second-Stage Cesarean Delivery

Dr Christine Bloch, MD, Stratford, ON
Dr Sharon Dore, RN, PhD, Hamilton, ON
Definitions & risk factors
- Deeply impacted fetal head
- Physical assessment
- What we usually do
- Risks of this approach
- Opening our minds to new techniques
- What does the literature say
- Training the next generation

Definitions
- Second stage cesarean
  - Incidence 2-4% of deliveries
  - Usually easier for true cephalo-pelvic disproportion
- Progressively more difficult with:
  - Prolonged second stage >3 hrs
  - Increasing tissue edema and hyperemia
  - Moulding and caput
  - Malposition (OP, OT, deflexion, asynclitism)
  - Unsuccessful assisted vaginal birth
  - Prematurity
- Deeply impacted fetal head
Physical Assessment

The Abdominal Exam
We must optimize the second stage of labour

**AND**

Accurately identify the impacted fetal head

- Fully Dilated CS
- Forceps
- Vacuum
What we usually do

...the PUSH method...

What does the literature say?

- 2nd stage cesarean section is associated with higher:
  - Maternal admissions to ICU
  - Blood transfusion rates
  - Neonatal death rates
  - Admissions to NICU
  - Rates of Apgar score <7 at 5 min
  - Risk of spontaneous preterm delivery next pregnancy
  - Higher rates of recurrent sPTB < 30 weeks
  - Increased risk of perinatal death from prematurity
Occiput Posterior/Transverse

PULL method: Reverse Breech Extraction
Occiput Anterior

The Patwardhan Method

https://www.youtube.com/watch?v=nvpBfz960do (from 6:52)

Approach to fully dilated cesarean

- **Anticipate** for impacted fetal head
- **Discuss** with the patient and support people (person in COVID)
- **Alert staff:** nursing, midwifery, family OB, anesthesia, pediatrics, second on call
- If you are planning on using the PUSH technique, **identify** the best/safest possible person to achieve this
  - This individual is **experienced, skilled and gentle**
- **Position** the patient
  - Lower the OR table, have standing stool
  - Trendelenburg and/or modified lithotomy
**Uterine Incision**

- **Transverse Lower Segment**
  - Go higher with smiley face 😊
  - Good place to start
  - Patwardhan technique

- **Low Vertical**
  - Advance plan for RBE
  - Minimizes trauma/bleeding
  - (Shipp et al. Obstet Gynecol. 1999)

- **T-incision or J-incision**
  - Need to extend normal incision
  - Do you need a little or a lot?
  - Last resort

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**Approach to fully dilated cesarean (Cont.)**

- **SLOW DOWN** even if abnormal FHR
- **Relax** the uterus
  - Deliver between contractions
  - Uterus can contract on incision (wait 1-2 mins)
  - Nitroglycerin 50-200 mcg IV
    - Onset 30-45 sec, duration 2 mins
- **Elevate fetal shoulders**
- **Proceed gently & thoughtfully**

**Bandl's ring:** incise vertically
What does the literature say?

Systematic reviews and meta-analyses of PUSH versus PULL:
- PULL (RBE) less fetal injury & higher Apgar scores
- PULL (RBE) less maternal tissue injury
- PULL (RBE) fewer postpartum fevers & wound infections
- PULL (RBE) shorter operating times
- PULL (RBE) less blood loss

(Cont.)

2016 meta-analysis
- Mostly observational studies
- Shoulders-first technique (Patwardhan method) lower rate of uterine incision extension than the PUSH technique
- Studies have yet to compare the Patwardhan and PULL (RBE) methods
The Fetal Pillow

- Limited evidence suggests Fetal Pillow associated with:
  - Less risk of extension
  - Shorter time to delivery
- Sample sizes limited
- Not powered to assess neonatal outcomes
- Other trials in progress

https://www.safeob.com/animation

- Rigid/foley catheter
- C-Snorkel
- Murless head extractor
- Coyne spoon
- Sellheim spoon
Document and Debrief

- Preparatory steps, including discussions with the patient and the health care team
- Maneuvers carried out
- Uterine incisions/extensions
- Maternal/newborn complications and treatment
- Any contraindications or concerns with future pregnancies, labours, or births

Simulation:
“Desperate Debra”

https://www.youtube.com/watch?v=n5lruiS0f4a
TIME’S UP

PUSH VS PULL

thank YOU