DYNAMIC MATERNAL ANESTHETIC STRATEGIES IN A COMPLEX FETAL AIRWAY DURING AN EX-UTERO INTRAPARTUM TREATMENT

Sanaz Bayani MD, Fernanda SL Oliveira MD, Ronald B. George MD.
Department of Anesthesia and Pain Management, Mount Sinai Hospital, University of Toronto, Canada

Sinai Health | Mount Sinai Hospital
Joseph & Wolf Lebovic Health Complex

Background:

FETI: Fetal endoscopic tracheal intubation

EXIT: Ex-utero intrapartum treatment

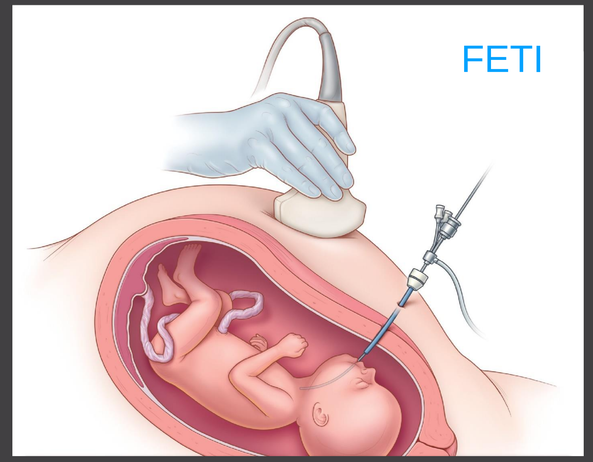
→ Fetal AW management

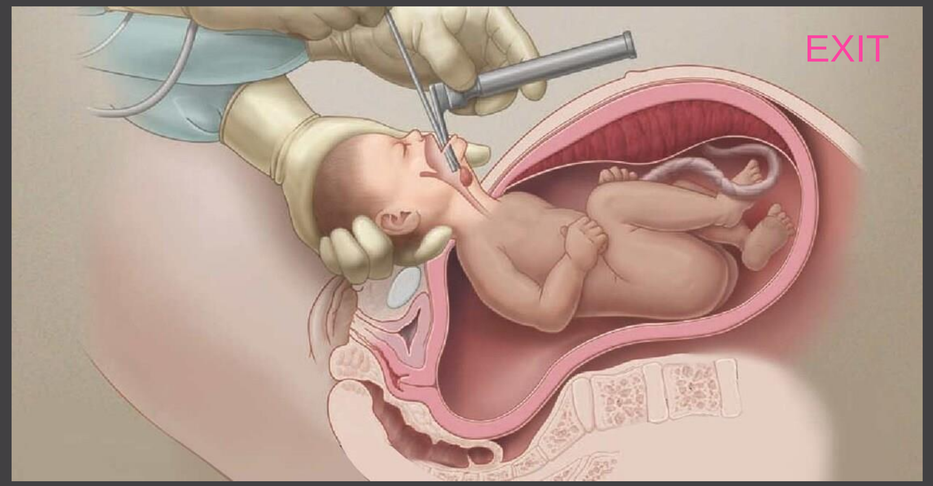
Partial fetal delivery → CS
Fetal oxygenation → Uteroplacental circulation
Secure fetal AW → Intubation or tracheostomy

North America: **1- 5** EXIT/ institution/ annually
→ 94-100% AW success

Anesthesia goals

- Adequate uterine relaxation
- Uteroplacental blood flow
- Feto-maternal stability
- Post-op pain control





Case:

33 F, G3P0, No comorbidities → FETI/EXIT + CS
Prenatal Dx: micrognathia + glossoptosis → Anticipated AW obstruction

Initial plan
- FETI
- CSE + Sedation
- Nitro → Uterine relaxation
- GA conversion if required

Consideration
Bedside US →
Unfavorable fetal position

Revised plan
- EXIT
- GA

Standard monitoring + Art-line

Spinal morphine → post-op analgesia

RSI + Intubation

Sevo (1.5 MAC) + Roc

Adequate uterine relaxation

low-dose vasopressor → Hemodynamic stability

8 min after incision → Fetal head partially delivered

Intubated by ENT
ETT placement confirmed

3,410 g male delivered
Cord clamped
Apgar (5-7)

Transferred to NICU

Sevoflurane Replaced with PPF infusion

Carbetocin (100 mcg) → Adequate uterine tone

EBL: 750 mL
Hemodynamic stable

Extubated uneventfully

Transferred to PACU

Well-controlled pain

No opioid needed for 24h

Teaching points:

- Multidisciplinary planning → Anesthesiology, Obstetrics, Pediatrics, ENT, NICU
- Critical role of Anesthesia → Flexible, Dynamic intra-op decision-making
- Multiple possible anesthetic strategies → Each has distinct challenges → Backup plans
- Anesthesia goal : Uterine relaxation, Placental perfusion, Maternal-fetal hemodynamic stability, Effective analgesia → Balanced situation for mother and baby

References

1. *Fetal Diagn Ther* 2022;49:496–501.
2. 2. *Acta Oto-Laryngol Case Reps* 2023;8(1):72–76