Laser Ablation of Subglottic Stenosis in Pregnancy: Should Continuous Fetal Monitoring be the Standard of Care?

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Background

- Non-obstetric surgery is required in 0.75 - 2 % of all pregnancies
- Elective vs time sensitive vs emergent
- Intraoperative CFM used in cases of fetal viability to guide interventions:
  - Position changes, tocolysis, pressors, delivery
- Routine general anesthetics lead to predictable changes in FHR
- Examples of high-risk surgery: Surgery on the heart, airway, large blood vessels

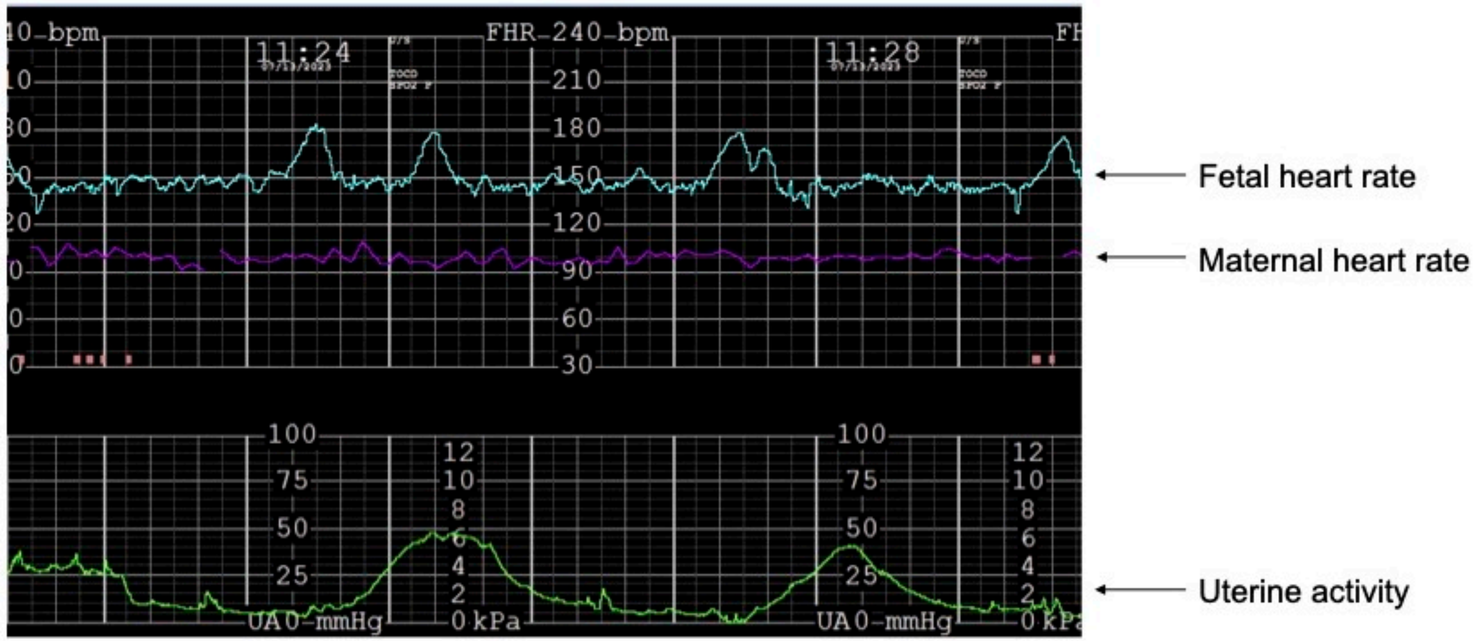

Figure 1: Category 1 fetal heart rate tracing

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Case Presentation

History

- A 37-year-old G1P0 female at 29w4d admitted for worsening dyspnea, stridor, and dysphonia
- History of subglottic stenosis s/p serial dilations

Exam

- Vitals:112/76, HR 98, SpO2 99% on RA
- Resp: Unlabored, no audible stridor
- CV: Regular rate and rhythm
- Airway: Mallampati II, TMD > 6 cm

Studies

- PFT's: Increased residual volume and decreased DLCO
- CT: circumferential subglottic scar 8x7mm, 13 mm long
- Laryngoscopy: Subglottic narrowing with erythema

Treatment

- Minimal response to intralesional glucocorticoids
- Multidisciplinary preparation with MFM, ENT, & OB anesthesia
- Laser ablation with CFM

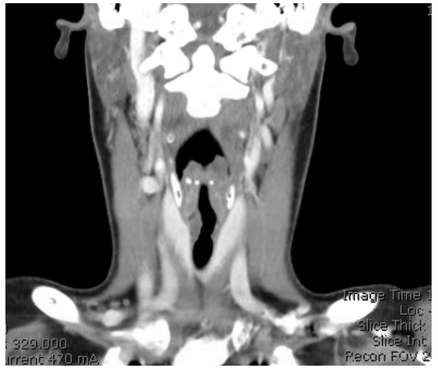

Figure 2: Subglottic stenosis coronal view

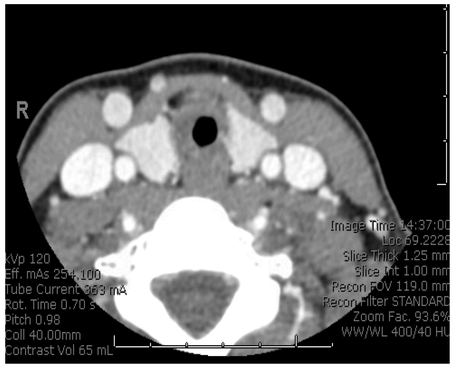

Figure 3: Subglottic scar axial view

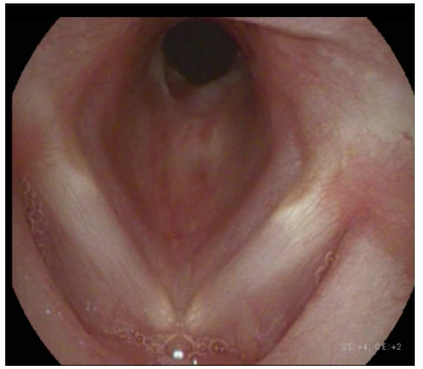

Figure 4: Flexible laryngoscopy

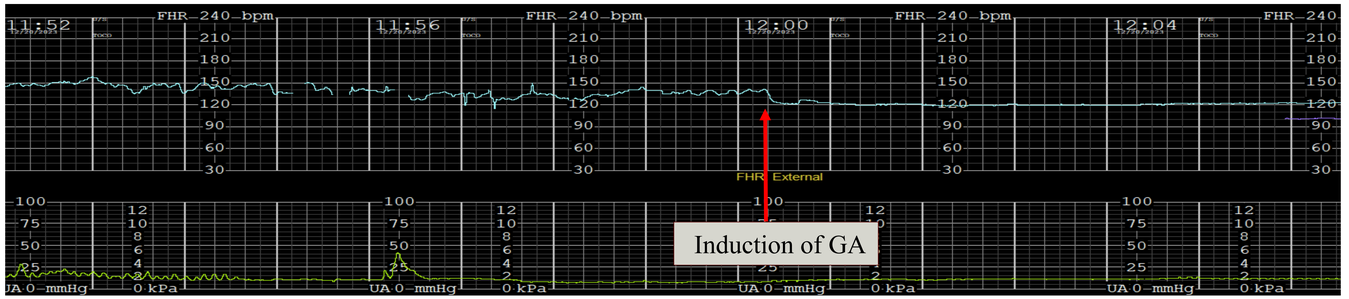

Figure 5: Intra-op CFM tracing showing effects of general anesthesia (GA)

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Key Points

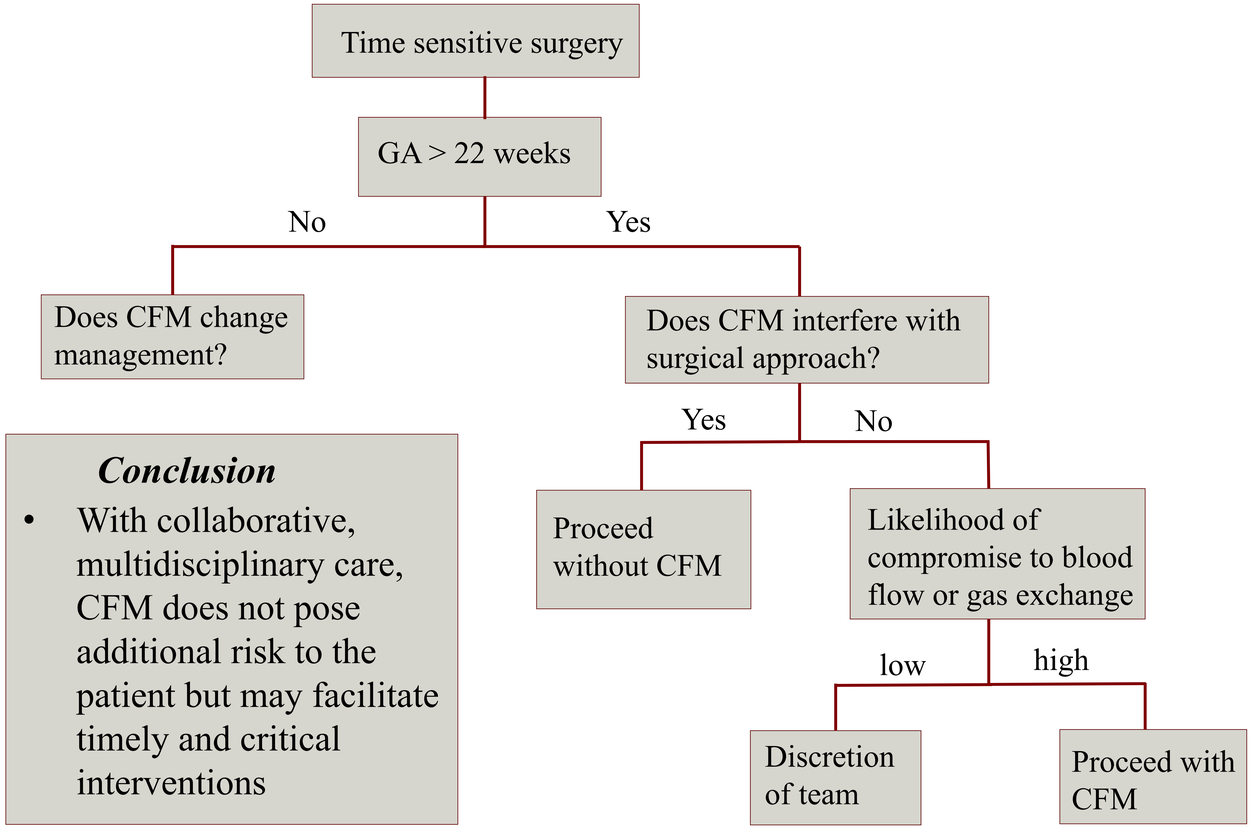
To monitor or not to monitor?

Continuous Fetal Monitoring

- 6% rate of delivery due to terminal bradycardia detected by CFM
- Chance of iatrogenic premature cesarean delivery

No Continuous Fetal Monitoring

- No high-quality evidence showing non-inferiority of close maternal hemodynamic monitoring
- May miss opportunity to intervene on acute fetal instability



Conclusion

- With collaborative, multidisciplinary care, CFM does not pose additional risk to the patient but may facilitate timely and critical interventions

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