A Breath of Fresh Air: Considerations for Parturients with Idiopathic Tracheal Stenosis

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Background

Who: Females > males

What: Inflammatory and hormonal influence[1]

When: Can worsen during pregnancy[1]

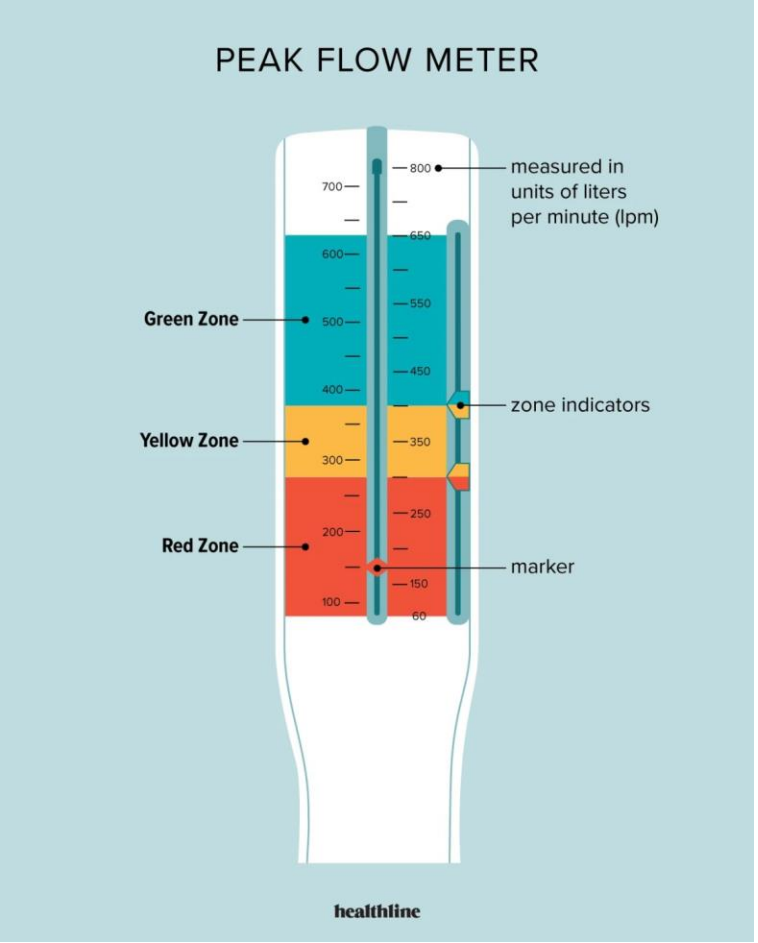
How: Idiopathic

Monitoring/surveillance[2]

- Quantitative:
  - Peak flow meter
  - Direct visualization
- Qualitative:
  - Voice-related quality of life measures
  - Glottal functional index

Surgical intervention

- Steroid injections
- Serial stenosis dilations
- CO2 laser excision



1. Aziz, J. (2023). Idiopathic tracheal stenosis and hormone receptors.
2. DeVrieze, B. (2024). Peak Flow Rate Measurement.
Image: https://www.healthline.com/health/peak-flow-meter#types

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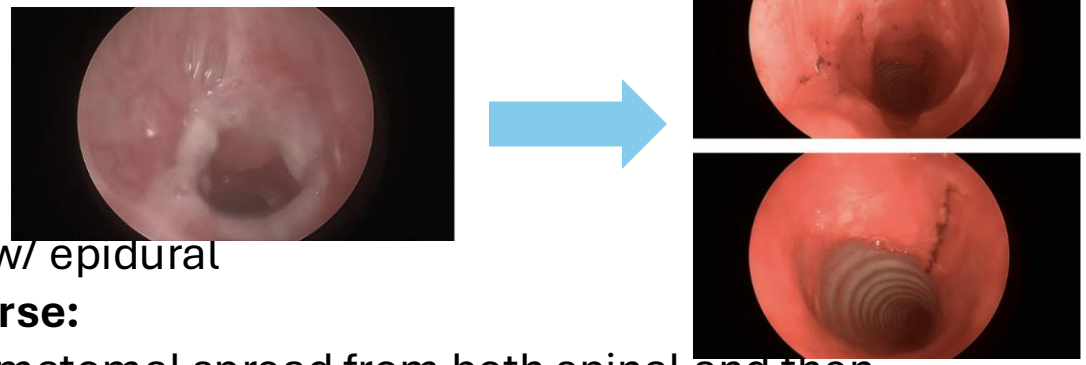
Case Presentations

- **37 G2P1 F** presented for repeat cesarean at 39w0d due to worsening symptoms associated with known subglottic stenosis
- **PMH:** Congenital tracheal stenosis status-post tracheostomy and tracheal reconstruction
- **Peri-partum ENT office visit:**
  - Fiberoptic eval: ~75% tracheal stenosis
  - Symptoms: noisy breathing, mild inspiratory stridor
  - Voice-related Quality of Life= 10
  - Glottal Function Index= 0
- **OB history:** x1 prior C-section
- **Intra-operative course**:
  - Uncomplicated CSE placement with BL T3 (pinprick)
  - ~9 min after induction, endorsed SOB
  - Simple face mask at 10L/min

- **35 G2P1 F** presented for an unscheduled primary cesarean at 37w0d due to malpresentation and PROM
- **PMH:** Idiopathic subglottic stenosis that was first discovered during her 2023 pregnancy with worsening SOB
- **Peri-partum ENT office visits:**
  - Followed by peak flow meter readings
- Serial peri-partum microdirect laryngoscopy with dilation, CO2 laser excision of scar, and steroid injection (last ~11 days prior to cesarean)
  - Done under GA with jet ventilation and continuous intra-op fetal monitoring



- **OB history:** x1 SVD w/ epidural
- **Intra-operative course:**
  - Inadequate dermatomal spread from both spinal and then epidural placement
  - Required GA (6.0 MLT w/ MAC 3 VL)

Discussion

1. Evaluation of severity: Qualitative (Voice-related Quality of Life, Glottal Function Index, symptom progression) vs Quantitative (peak flow meter, direct visualization)
2. Preference for neuraxial – pregnancy-related airway edema + hormone-related worsening of ITS, decreased FRC
3. Even with neuraxial, more likely to have symptomatic SOB due to loss of accessory muscle support
4. If GA section is required, consider advanced airway equipment (fiberoptic scope, LMAs, cricothyrotomy kit), ENT notification, higher level of care for post-op

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