

Maternal Sepsis: Anticipate and Act Early, Preventing Tube to Tracheostomy

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Background

- Maternal sepsis is a rare but life-threatening complication of pregnancy
 - Affecting 0.04% of deliveries¹
 - Responsible for 23% of all maternal deaths in the USA¹
- Consequences
 - including metabolic, renal, cardiogenic, and pulmonary dysfunction
- Airway management in maternal sepsis is critical, respiratory compromise is a common and serious consequence of the condition
 - Airway obstruction due to swelling or secretions
 - Hypoxia from impaired gas exchange or ventilatory failure
 - Acid-base disturbances from metabolic acidosis and respiratory issues



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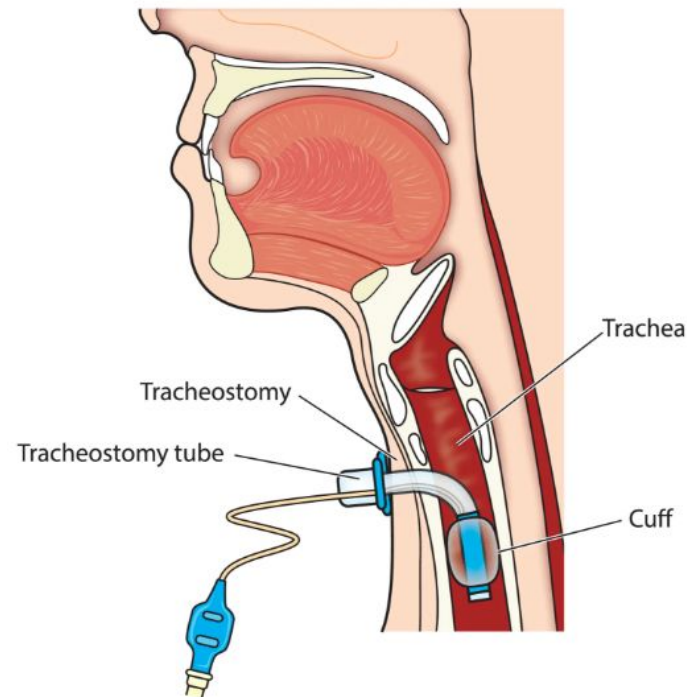
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Case Presentation

- 29 yo G1P1 40w3d gestation
- Pregnancy complicated by chorioamnionitis, HTN, morbid obesity (BMI>60), fetal non-wellbeing, and fever, raising concern for maternal sepsis
- Pt underwent primary low transverse C-section, significant for uterine atony then mother and baby transferred to SICU
- Rising lactate level, hemodynamic instability requiring multiple vasopressors, and signs of metabolic acidosis with respiratory distress
- Emergent bedside intubation was attempted using an 8.0 ETT with grade 1 view via McGrath, initially encountering difficulty advancing tube through vocal cords
- Bronchoscopy notable for complete obstruction distal to ETT
- Difficult Airway Response Team was activated, multiple unsuccessful attempts and signs of desaturation, an emergent bedside tracheostomy
- The Pt was then transferred to the OR for immediate tracheostomy revision and exploratory-laparoscopy
- During the procedure, an ischemic uterus was identified, necessitating open hysterectomy, bilateral salpingectomy



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Teaching Points

- Take the whole Pt presentation into account
 - Complex airway was compounded by mixed maternal sepsis, postpartum hemorrhage, and morbid obesity
- Areas to monitor postoperatively
 - Lactate levels, vital signs, and thorough consideration of risk factors
- Institutional Systems
 - Modified Early Obstetric Warning System (MEOWS)
 - Maternal Early Warning Criteria (MERC)
- Advanced monitoring systems could facilitate earlier recognition of perinatal sepsis, providing more time to address complex airway management ²
- Ask for help when needed

Table 1. Modified Early Obstetric Warning System

Physiological Parameter	3	2	1	0	1	2	3
Respiratory Rate	<12			12 - 20		21 - 25	>25
Oxygen Saturations	<92	92 - 95		>95			
Any supplemental Oxygen		Yes		No			
Temperature	<36			36.1 - 37.2		37.3 - 37.7	>37.7
Systolic BP	<90			90 - 140	141 - 150	151 - 160	>160
Diastolic BP				60 - 90	91 - 100	101 - 110	>110
Heart Rate	<50	50 - 60		61 - 100	101 - 110	111 - 120	>120
Level of Consciousness				A			V, P or U
Pain (excluding labour)				Normal			Abnormal
Discharge / Lochia				Normal			Abnormal
Proteinuria						+	++ >

References:

1. Hensley MK, et al. JAMA 2019.
2. Umar A, et al. PLoS One. 2019.
3. Cole M, et al. BJM. 2014.