

Anesthetic Management and Use of Point-of-Care Ultrasound in a Parturient with Symptomatic Goiter

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Background:

- Pregnancy is associated with formation of new thyroid nodules and increasing size of existing nodules
- Parturients with large multinodular goiter may have decreased neck movement and mouth opening, and tracheal compression and/or deviation
- Physiologic changes to airway can increase risk of difficult intubation, and thyroid masses can create further challenges

Case:

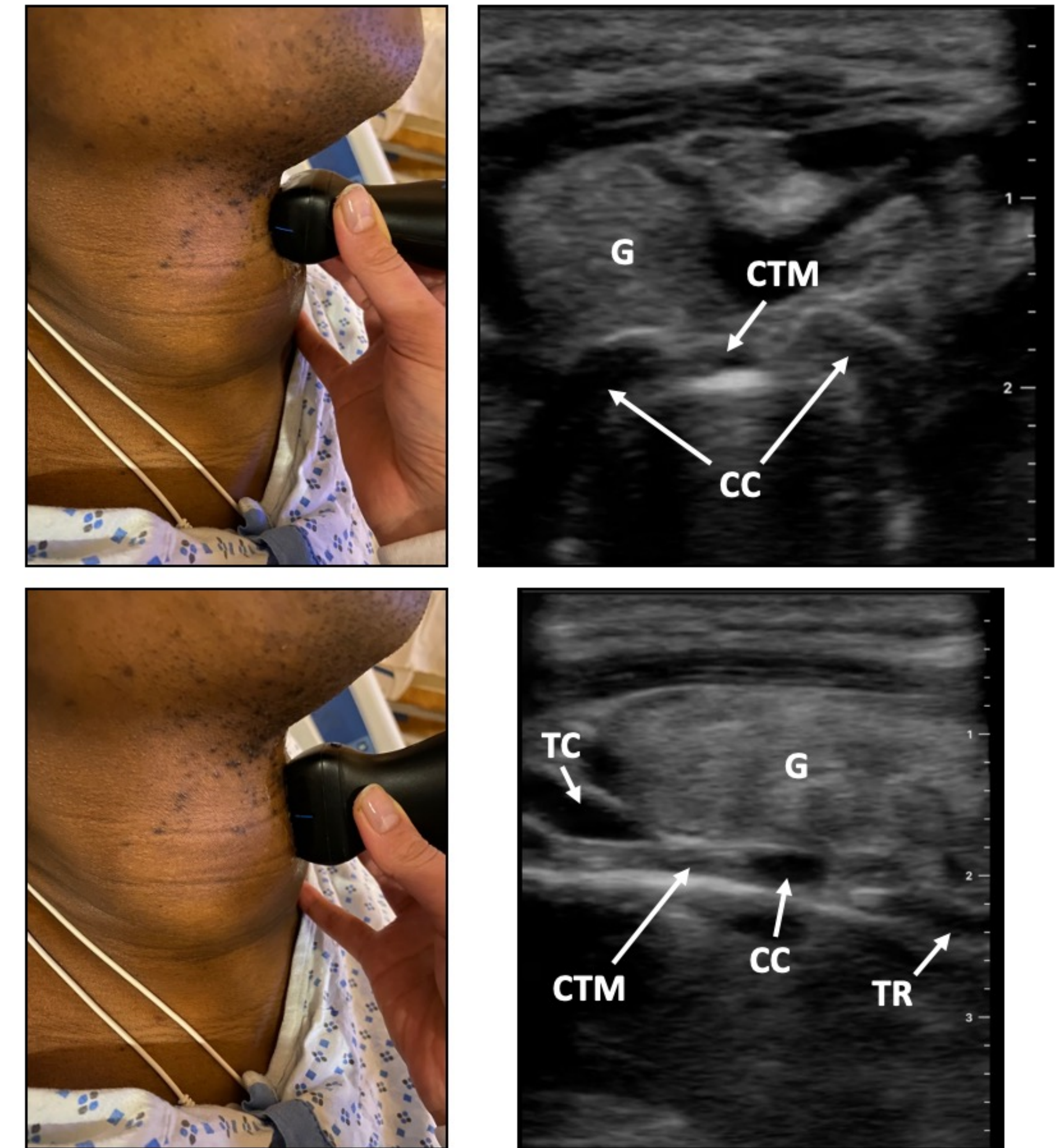
- 42-year-old G5P3 with prior cesarean section (CS) and 7 years of enlarging goiter presented with oligohydramnios at 37 weeks
- Neck CT from 2 years ago showed 10.5 cm right thyroid lobe, 12.5 cm left thyroid lobe with extension to parapharyngeal space superiorly and aortic arch inferiorly, tracheal narrowing and rightward deviation
- Slept with 3 pillows at night and noted whistling in her voice with prolonged speaking

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Case (cont'd)

- Multidisciplinary discussion → planned CS with extracorporeal membrane oxygenation (ECMO) standby, to avoid emergent airway instrumentation
- Combined-spinal-epidural performed with:
 - 12 mg 0.75% hyperbaric bupivacaine
 - 15 mcg fentanyl
 - 150 mcg morphine
 - 30 mcg clonidine
- Kept in slight recumbent position with O₂ via nasal cannula (2L) which kept her SpO₂ 99% throughout CS
- Infant delivered with APGAR scores of 9 and 9
- Epidural catheter kept in place for post-CS analgesia



Linear, high-frequency transducer in transverse midline view (top) and midsagittal view (bottom).
G = goiter, CTM = cricothyroid membrane, CC = cricoid cartilage, TC = thyroid cartilage, TR = tracheal ring

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Discussion:

- The use of awake fiberoptic intubation for urgent CS in the setting of airway compression has been reported
- In our case, careful planning and early involvement of a multidisciplinary team allowed a planned CS with neuraxial anesthesia and no airway compromise
- Airway ultrasound can be utilized in conjunction with other imaging modalities to confirm severity of airway obstruction

Key Points:

- ✓ Airway POCUS may be a vital skill for obstetric anesthesiologists given the higher incidence of difficult intubation in this population
- ✓ In pregnant patients with obstructive thyroid masses, consider keeping the epidural catheter for pain control and to avoid emergent airway instrumentation