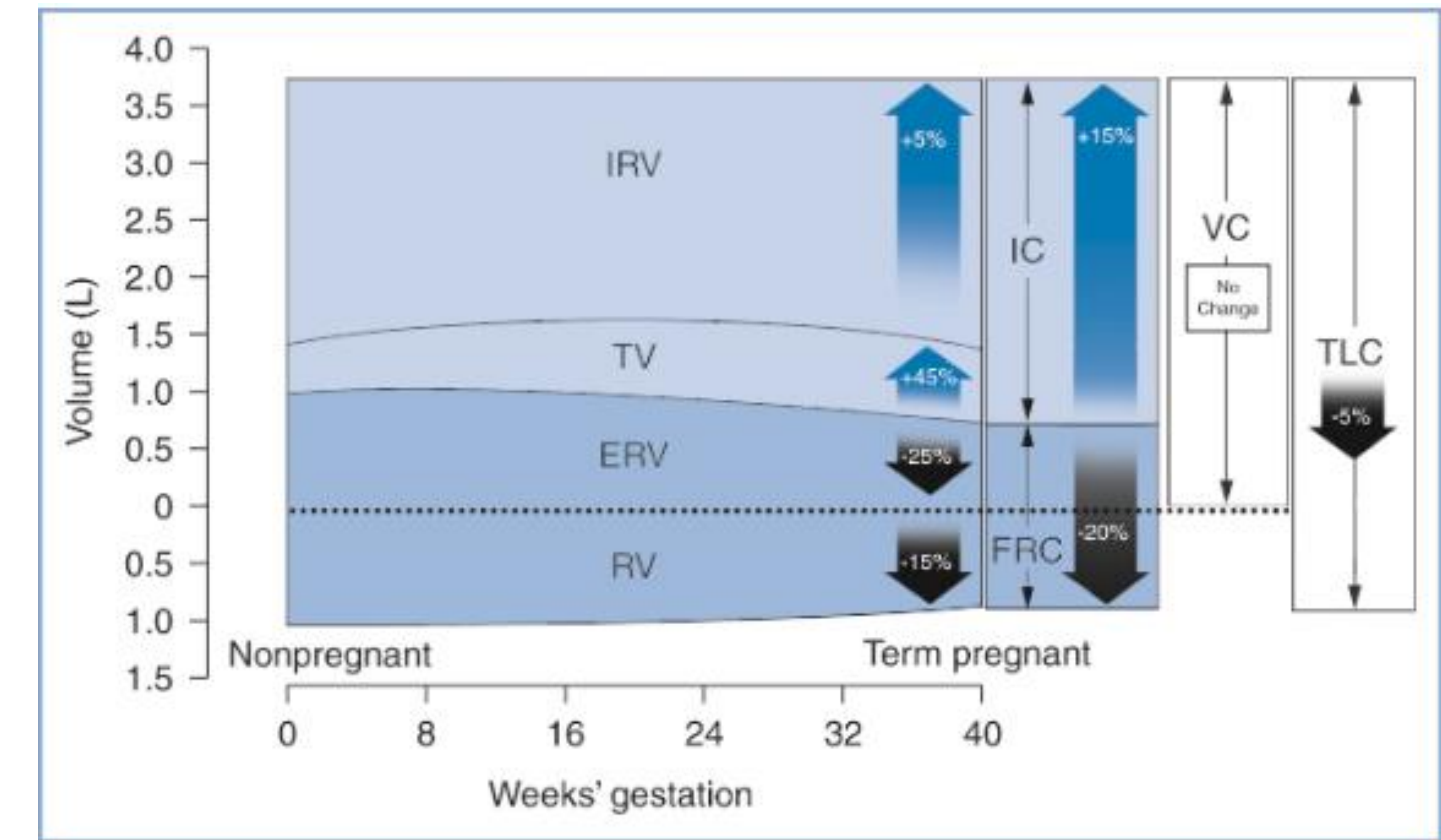


Intervention for Grade 3 Subglottic Stenosis in the Third Trimester: A Case Report

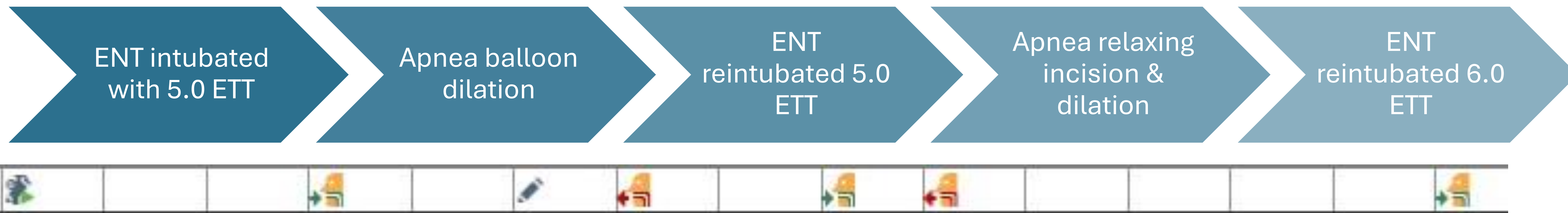
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- Airway stenosis is characterized by fibrotic changes in the upper airway that can become a life threatening condition (1)
- Poorly tolerated in pregnancy
 - 20-40% increase in maternal oxygen consumption (2)
 - Decreased FRC (3)
 - Capillary engorgement of the larynx
- Few reports of management during pregnancy (4)



Case

- 30yo G3P1 27w3d with PMH asthma, anxiety, Hashimoto's presented with 6 months of worsening shortness of breath and stridor
 - Flexible laryngoscopy revealed grade 3 subglottic stenosis
 - ICU admission for airway monitoring, steroids, and racemic epinephrine
 - Multidisciplinary discussion weighing delayed intervention and fetal prematurity. Decision for surgical intervention at 32 weeks with intra-op monitoring and possible STAT cesarean section
 - Preoxygenated with 100% FiO2 for 5 minutes, RSI, OG tube to suction



- During periods of apnea, SpO2 never dropped below 91%. Extubated at the end of the case and transferred to ICU on room air
- Fetal monitoring stable throughout the procedure
- She was discharged home and delivered via repeat cesarean at 38 weeks without complication

Teaching Points

Preoxygenation likely contributed to safe oxygen saturation during a period of apnea

Efficacy of tracheal dilation with periods of apnea during the third trimester of pregnancy

Multidisciplinary coordination to optimize the safety of both mother and fetus

(1) Miller, K.M., Liang, K.Y., et al. Surgical Management of Airway Stenosis During Pregnancy: A Scoping Review. *The Laryngoscope* 2024; 134: 1014-1022. <https://doi.org/10.1002/lary.30994>

(2) Barbera JP, Mossayebi MH, Khanuja K, et al. Idiopathic subglottic stenosis in pregnancy: A systematic review. *Int J Gynecol Obstet.* 2025; 00: 1-12. doi:[10.1002/ijgo.70719](https://doi.org/10.1002/ijgo.70719)

(3) Chestnut, D. H., Wong, C. A., Tsen, L. C., Ngan Kee, W. D., Beilin, Y., & Mhyre, J. M. (Eds.). (2020). *Chestnut's obstetric anesthesia: Principles and practice* (6th ed.). Elsevier.

(4) Dornan, L., et al. (2025). "Subglottic stenosis in pregnancy: a case report". *Journal of Oral and Maxillofacial Anesthesia*, 4.