Obesity and ECMO Challenges in Postpartum Code Blue

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Background

- A 37-year-old G1P0 female at 19w3d
- Past medical history of chronic hypertension, fibroids, obesity (BMI 44)
- Admitted for new-onset pre-viable super-imposed pre-eclampsia
- Additional findings: transaminitis, proteinuria, and early-onset fetal growth restriction

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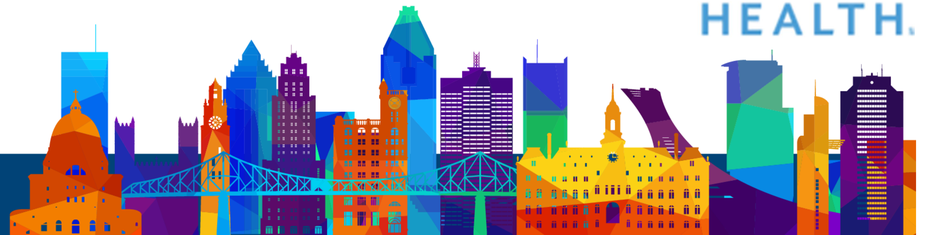

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Hospital Course

HD1 required antihypertensives and opted to proceed with D&E for maternal health benefits

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HD4 the fetus was delivered uneventfully but fibroid burden impeded the delivery of the placenta

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Plans to continue medical management until spontaneous delivery of the placenta

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HD5 required delivery of the placenta via classical hysterotomy secondary to superimposed preeclampsia with severe features

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HD6 developed seizures and hemodynamic instability progressing to cardiac arrest

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OR for ECMO cannulation and exploratory laparotomy

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Peripheral VA ECMO cannulation unsuccessful due to body habitus, active CPR, a gravid uterus, and concurrent abdominal exploration

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Sternotomy for central cannulation

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50 minutes of ACLS elapsed before ROSC

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Transferred to ICU, but required re-exploration for bleeding

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HD7 was transitioned to comfort care and subsequently died

Discussion & Conclusion

- Prevalence of obesity continues to increase and the implications relative to pregnancy are often unrecognized or overlooked[1]
- Previously, a BMI >40 was considered a relative contraindication to ECMO[2]
- Although studies evaluating mortality in obese patients on ECMO have shown mixed results, it is recognized that obesity increases complications.
- Increased adiposity can obscure underlying vessels and result in suboptimal cannula positioning for ECMO[3]
- Early ECMO mobilization should be considered to offset unanticipated cannulation challenges

References

1. ACOG. Obstet Gynecol. 2021 Jun 1;137(6):1137-1139.
2. Ripoll JG et al. J Cardiothorac Vasc Anesth. 2024 Jan;38(1):285-298.
3. Huang X et al. BMC Pulm Med. 2024 Mar 28;24(1):157.

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