Anesthetic Management of a Parturient with Post-COVID ILD, Large Pulmonary Bulla, and Acute-on-Chronic Respiratory Failure

Carolina Aravera, M.D., Morgane Factor, M.D., Bahaa E. Daoud, M.D., Tiffany Angelo, D.O.

Case Presentation

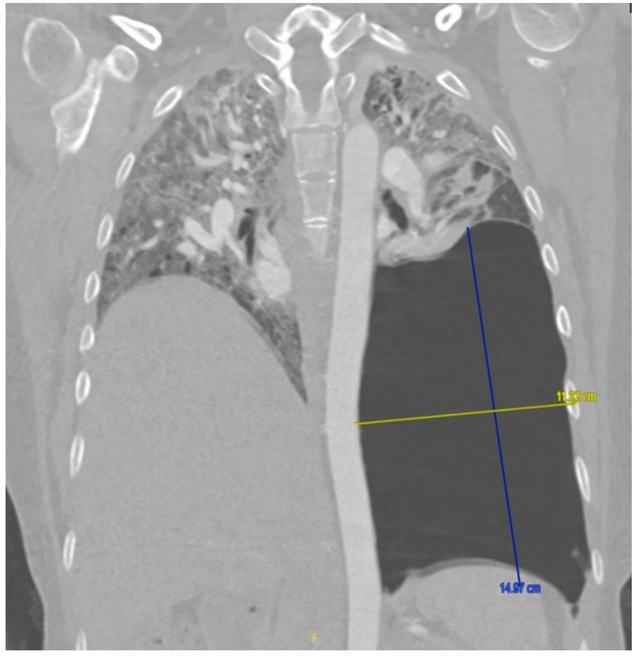
38Y female G3P1102 @ 29w2d gestation presents late to obstetric care reporting worsening dyspnea and increased oxygen requirement to 4L for several days

Past Medical History:

- Post COVID ILD with large pulmonary bulla on 2L home oxygen, Type 2 DM
- Hospitalization one year prior with COVID pneumonia, respiratory failure requiring intubation, PTX with bilateral chest tubes, multiple cardiac arrests & tracheostomy placement with subsequent decannulation

Obstetric History: C-section x2

Requires hospital admission for urgent Cesarean section for acute on chronic respiratory failure



Work Up

OB: Cervix 1.5-2cm dilated/60% effaced, anterior placenta, no accreta

CT chest: Extensive fibrotic changes with bilateral cysts and left lung with 15 x 11cm pulmonary bleb

PFTs: FVC of 25% and FEV1 of 25%

Echo: EF 70%, moderate diastolic dysfunction with elevated LV filling pressures, normal pulmonary artery systolic pressure at 13.7 mmHg

Laryngoscopy: Non-obstructing left arytenoid granuloma likely secondary to prior prolonged intubation, mobile vocal cords and a patent subglottis

Multidisciplinary Team Meeting

OB/GYN- Maternal Fetal Medicine
Obstetric Anesthesia
Cardiac Anesthesia
Cardiothoracic Surgery/CTICU
MICU/Pulmonary
ENT
NICU

Stony Brook Medicine

SOAP Society for Obstetric Anesthesia and Perinatology

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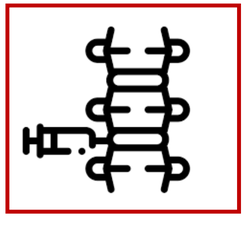
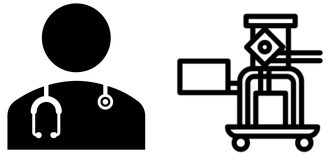
Anesthetic Planning

Neuraxial vs **General**



- Arterial line
- Central venous access
- ECMO cannulation
- Blood available



- Personnel standby
- V-V ECMO standby

Perioperative Course

Preoperatively- Admission to CTICU, arterial line placed, pRBC transfusion, upgrade to HFNC

13:36-13:51- Patient in OR, epidural placed, phenylephrine infusion started and epidural loaded to T10 level

14:03-15:18- Midazolam given 3mg total, arterial line placed, CVC and ECMO access obtained, surgical anesthesia achieved with an additional 20cc of 2% lidocaine

15:11- 15:22- Skin incision, uterine incision, delivery

15:40 15:58- Patient progressively hypoxemic, flumazenil administered, patient mask ventilated, severe respiratory acidosis on ABG, decision to start ECMO

16:02- 16:06- Worsening mental status, induction of general anesthesia with endotracheal intubation for airway protection

16:21- 16:25 - Surgery stop and bedside TEE

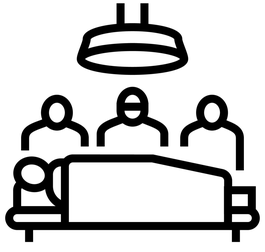
Postoperatively- Patient transported to CTICU

Learning Points

Multidisciplinary

Consults/Optimization

Resource Utilization



Anesthetic Technique

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