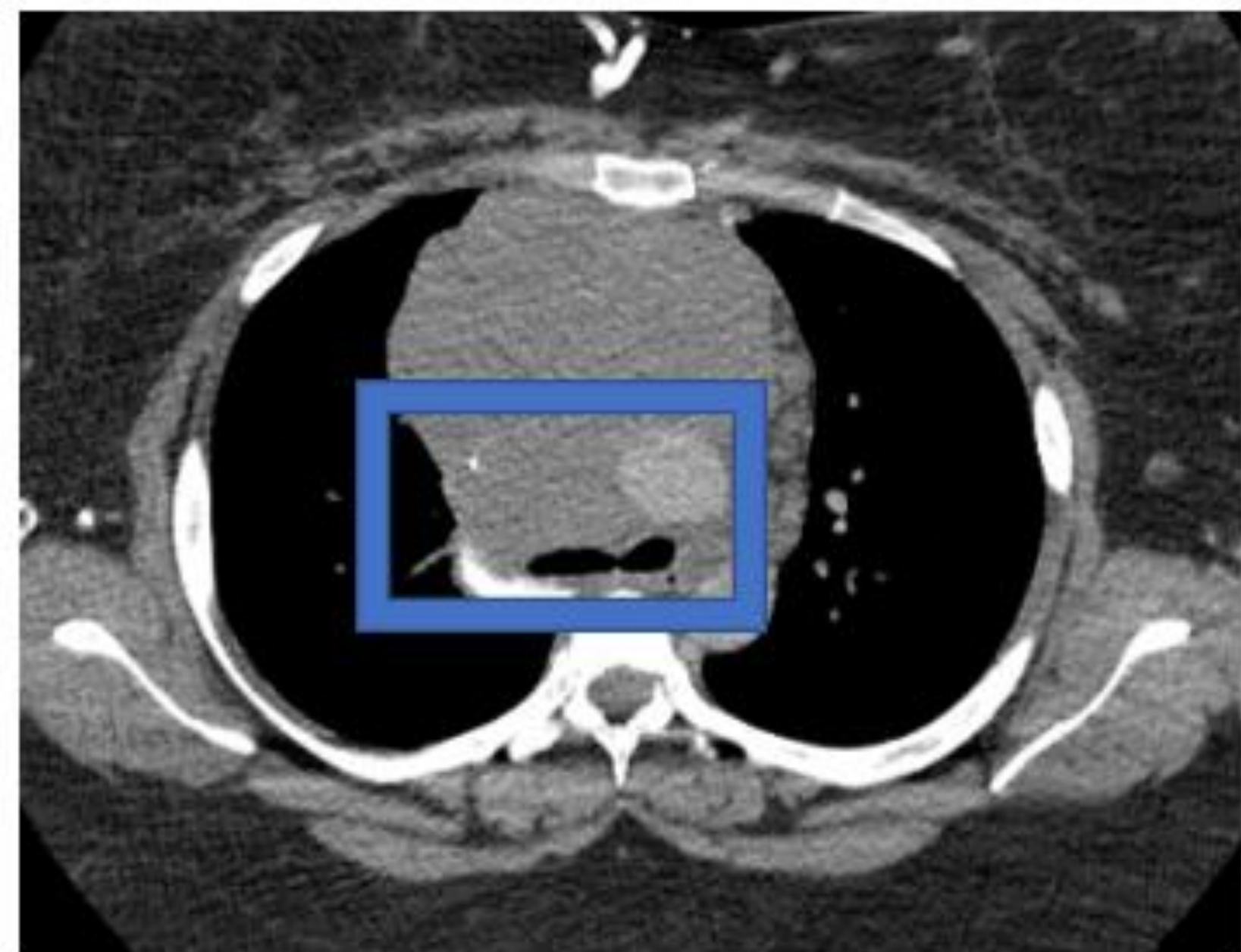


Anesthetic Management and Extracorporeal Membrane Oxygenation for Pregnant Patient with Mediastinal Mass

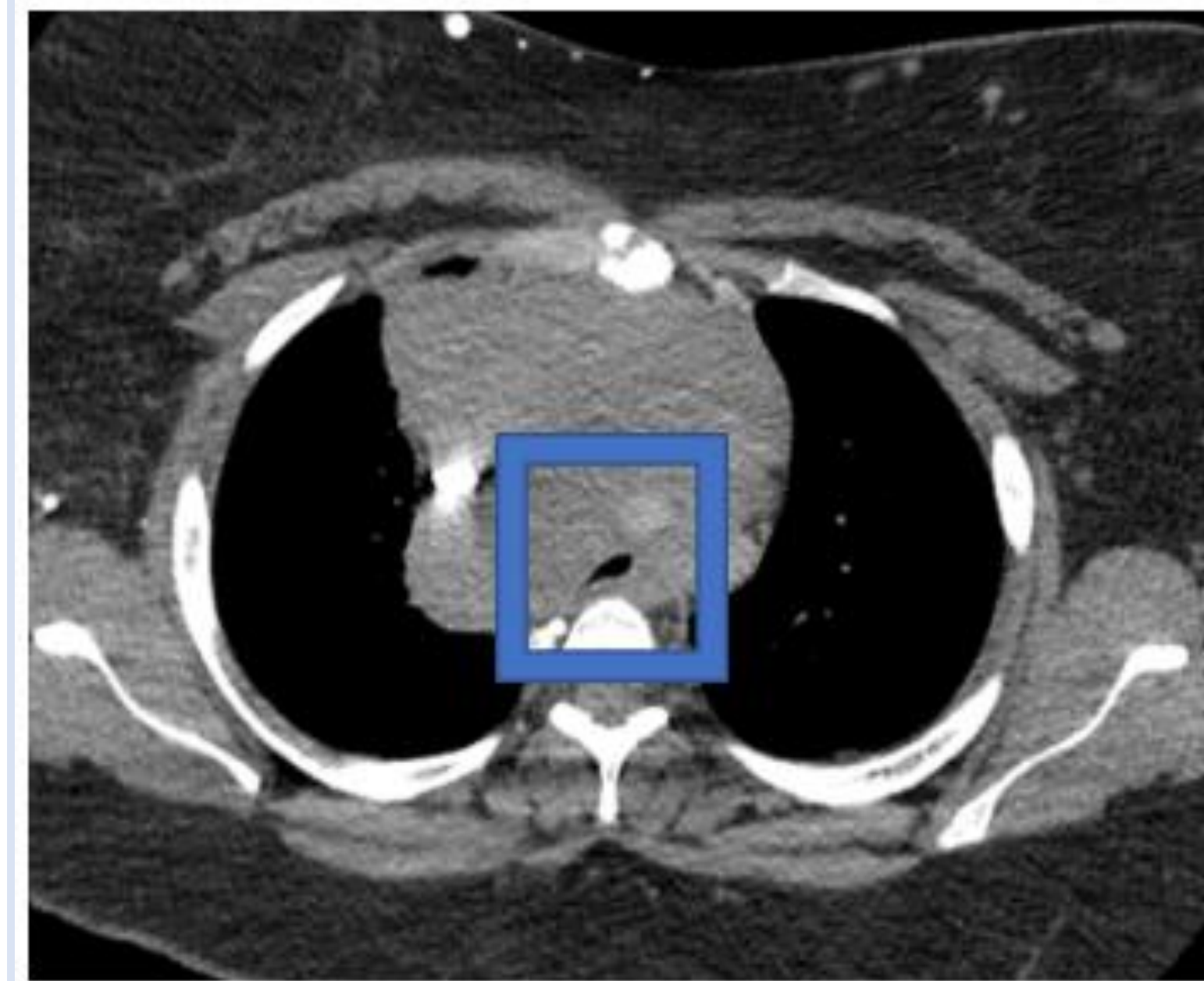
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Introduction

- Anesthetic management of mediastinal masses poses significant risks and challenges. Physiological changes of pregnancy compound these challenges. The following case offers robust opportunity for review and discussion of these topics.



6/19 Preop CT showing severe SVC narrowing (near occlusion), and carinal/MSB compression



6/19 Preop CT showing significant tracheal narrowing (>50%)



6/19 Preop CT coronal slice showing SVC narrowing (near occlusion)

Case

- 23-year-old G1P0 morbidly obese female at 32 weeks gestation presented to outside hospital with cholecystitis, progressive SOB, and widened mediastinum on CXR. Scheduled for C/S and cholecystectomy. Preop CT showed 12x11cm anterior mediastinal mass, narrowing of SVC, and compression of tracheobronchial tree.
- Bilateral femoral sheaths placed prior to induction for potential ECMO support. Smooth induction of GA with easy intubation, but progressive ventilation difficulty encountered. C/S quickly performed, CCY aborted. Patient kept sedated and intubated with ongoing ventilation issues in PACU, prompting VV-ECMO initiation. Admitted to ICU and transferred to our center for ECMO management.
- On arrival to UK, patient stabilized and treatment for B-cell lymphoma initiated. Taken to OR on POD7 for tracheobronchial stenting with ECMO and jet ventilation support due to concern for post-obstructive pneumonia. After stenting, successfully weaned and decannulated from VV-ECMO on POD9. After a protracted hospital course, patient eventually expired on POD24 due to pneumonia and sepsis.

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Discussion

- Much controversy surrounds this pathophysiology, with little clear evidence to guide optimal management. In this case, high risk features included SVC compression and dangerous symptomatic distal airway compression.
- **Physiologic changes of pregnancy** compounding these risks include gravid respiratory requirements and physiology, risks of airway difficulty, aortocaval compression, and increased oxygen consumption potentially outpacing ECMO capabilities. This combination of challenges requires thorough individualized multidisciplinary planning.
- **Management strategies** often include avoidance of GA, if possible, with careful neuraxial/regional techniques +/- pre-induction vascular access in case ECMO is needed. If GA is required, avoidance of NMB while maintaining spontaneous ventilation, if possible, use of reinforced ETT, lower extremity vascular access, fiberoptic/rigid bronchoscopy + jet ventilation +/- TEE on standby, and rescue positioning plans have been recommended.
- Some emerging literature calls into question traditional dogma including NMB and positive pressure ventilation effects on airway patency during GA. But controversy remains and the challenges of these cases necessitate careful individualized management.

References

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