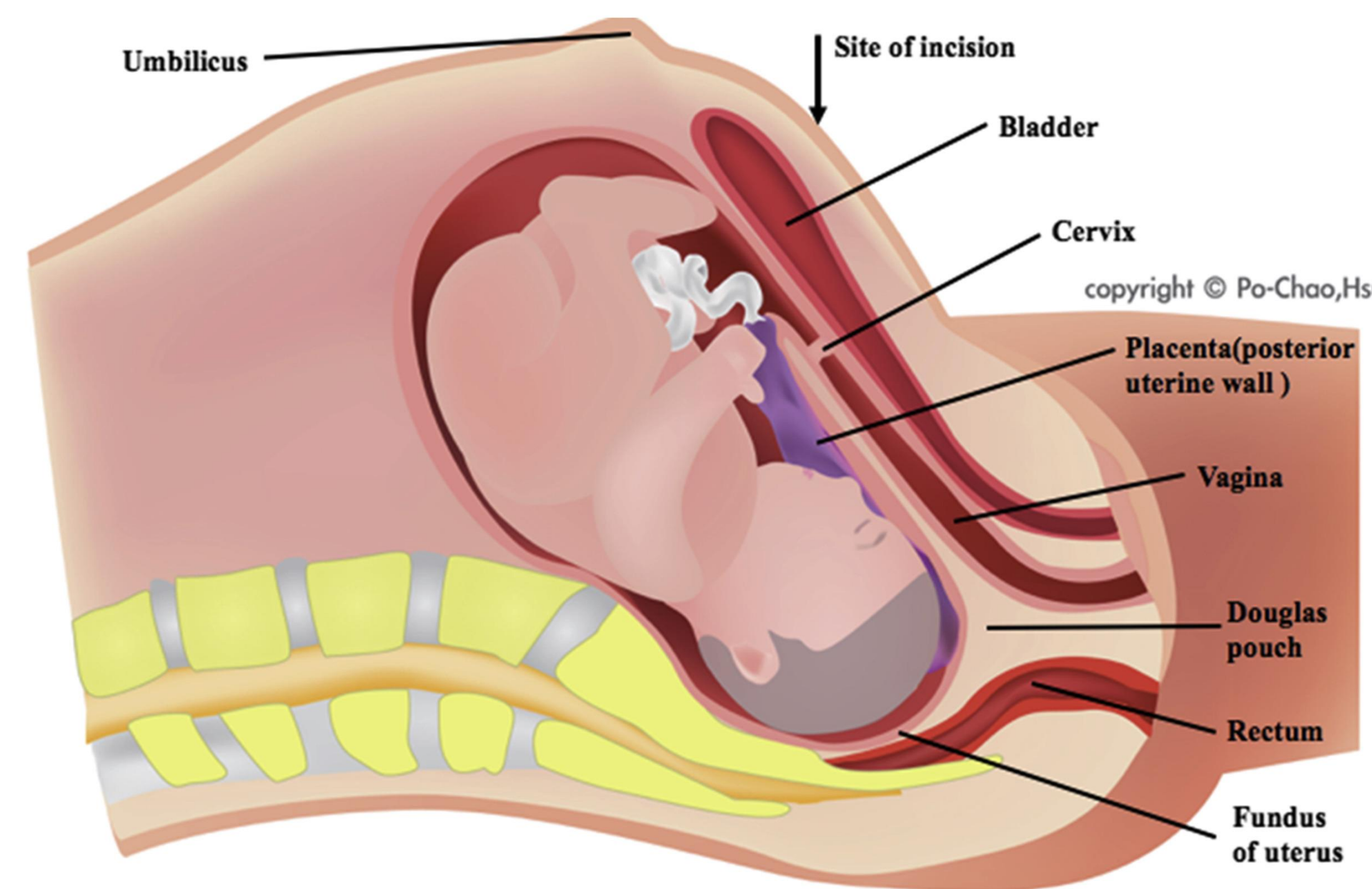




Uterine Incarceration in the Third Trimester Complicated by Bilateral Hydronephrosis and Inferior Vena Cava Compression Leading to Severe Tricuspid Regurgitation Necessitating Delivery

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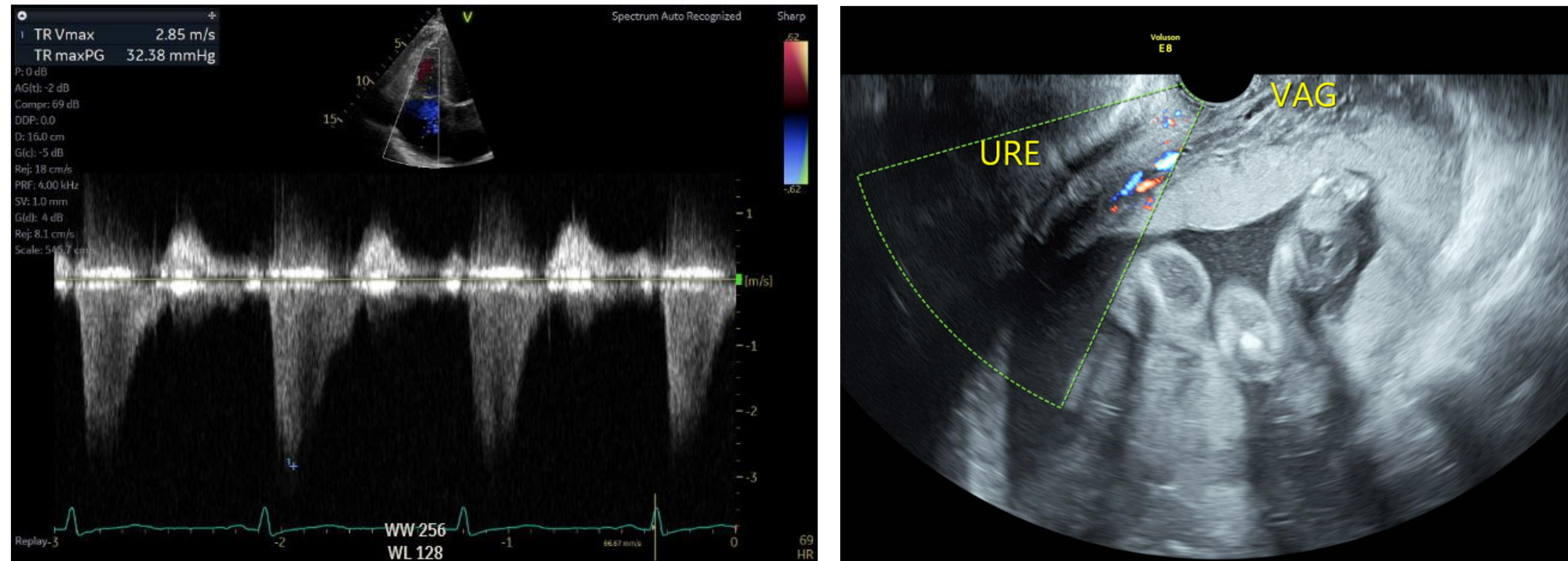


INTRODUCTION

- Uterine retroversion has been reported in up to 19% of pregnancies before 12 weeks.¹
- Most retroverted uteruses do not cause symptoms and subsequently resolve by the early second trimester.
- Uterine incarceration may occur when retroverted uterus does not ascend from the pelvis, becoming impacted by the sacrum with the cervix moved severely
- Patients may develop: pelvic or abdominal pain with bowel and bladder changes including constipation, urinary retention or incontinence.
- Women with uterine incarceration are at risk for labor dystocia and damage to structures during labor such as rupture of the uterus, rectum or bladder. Therefore, cesarean delivery may be necessary for safe delivery.²

CASE PRESENTATION

33-year-old G1P0 with history of prior exploratory laparotomy following motor vehicle collision in childhood



OBSTETRIC & ANESTHETIC MANAGEMENT

- Management in the 2nd trimester includes manual reduction either through physical examination and gentle manipulation of the uterus out of the pelvis or repositioning that encourages the movement of the uterus out of the pelvis.³
- If unsuccessful, consideration for laparotomy may be necessary to reposition the uterus, however, the benefits of uterine reduction must be weighed against the risks of surgery and preterm delivery of a nonviable or periviable infant.
- CSE vs. GETA

INTRAOPERATIVE COURSE AND CONSIDERATIONS

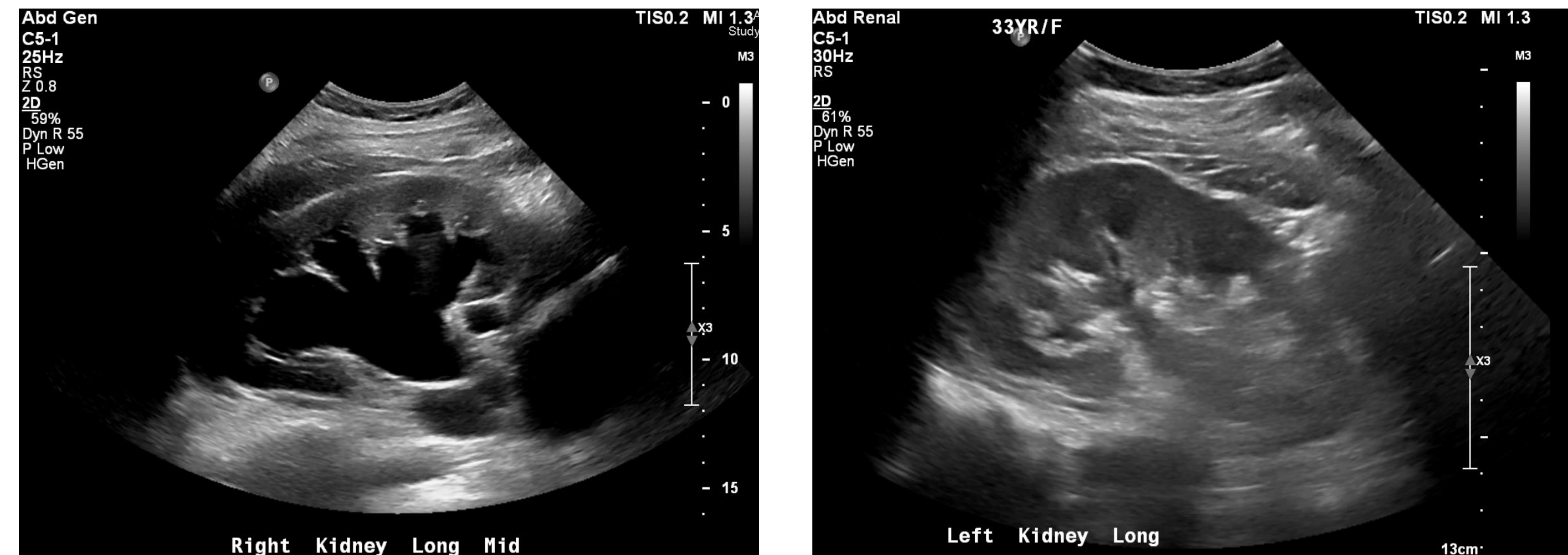
- Preoperative arterial line for hemodynamic monitoring
- Neuraxial: Thoracic epidural + lumbar combined-spinal epidural
- Considerations for spinal dose (preterm fetus versus spinal sympathectomy)
- Intraoperative Transthoracic Echocardiogram
- Intraoperative cardiac output monitor
- Goals:
 - Normal to ↑ preload. Critical to avoid hypovolemia
 - SR with normal to high HR to sustain forward flow
 - RV may need inotropic support if RV failure
 - Avoid ↑ PVR (avoid high airway pressures, hypercarbia, hypoxemia, hypothermia, acidosis)

CONCLUSION

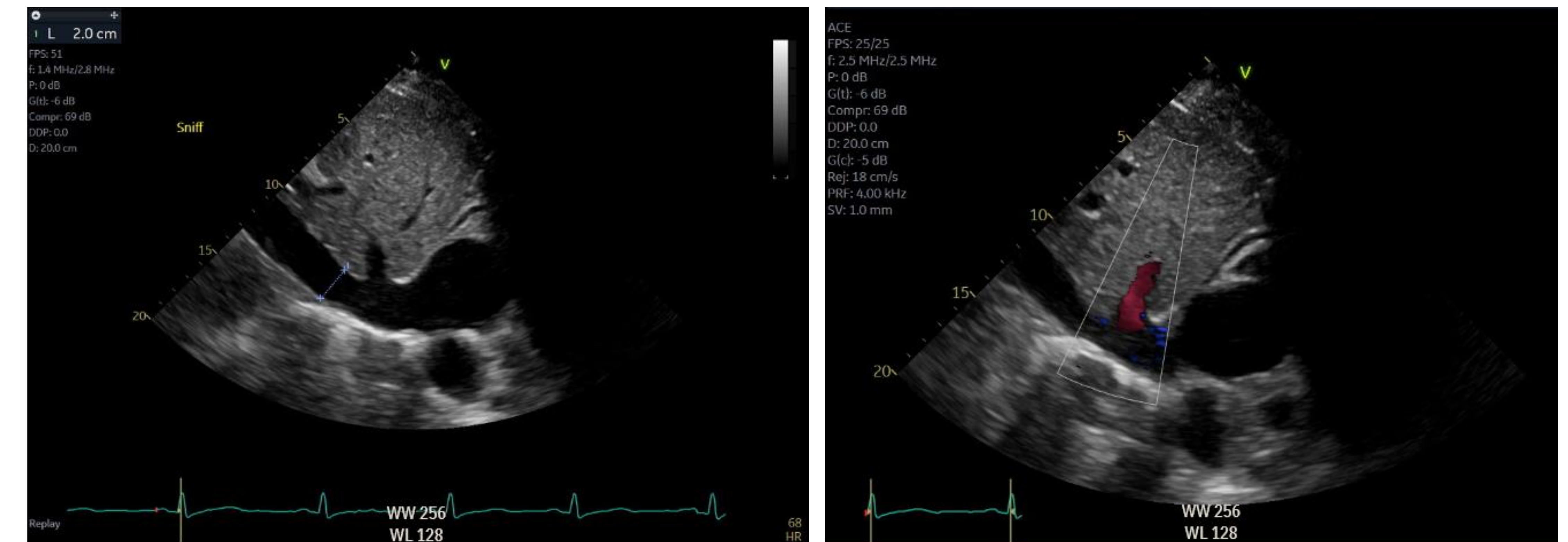
- Although gravid uterine incarceration has been well described in literature, there remains limited literature surrounding management and delivery timing in cases with maternal morbidity including hydronephrosis¹⁻³ and volume overload.
- Careful considerations should be taken into place when considering timing of delivery, mode of delivery, and anesthetic plan for delivery taking into account maternal status and fetal well-being.
- Point of care ultrasound can help guide intraoperative resuscitation and perioperative management to optimize patient outcomes.

IMAGES

RENAL ULTRASOUND BEFORE & AFTER DELIVERY



SYSTOLIC HEPATIC VEIN FLOW REVERSAL



CHEST X-RAY DEMONSTRATING CARDIOMEGALY



REFERENCES

1. Weekes AR, Atlay RD, Brown VA, Jordan EC, Murray SM. The retroverted gravid uterus and its effect on the outcome of pregnancy. Br Med J. 1976;1(6010):622-624
2. Wang L, Wang J, Huang L. Incarceration of the retroverted uterus in the early second trimester performed by hysterotomy delivery. Arch Gynecol Obstet. 2012;286(1):267-269.
3. Weekes AR, Atlay RD, Brown VA, Jordan EC, Murray SM. The retroverted gravid uterus and its effect on the outcome of pregnancy. Br Med J. 1976;1(6010):622-624.