

Management of a Parturient with ESRD and Worsening Pericardial Effusion

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Background:

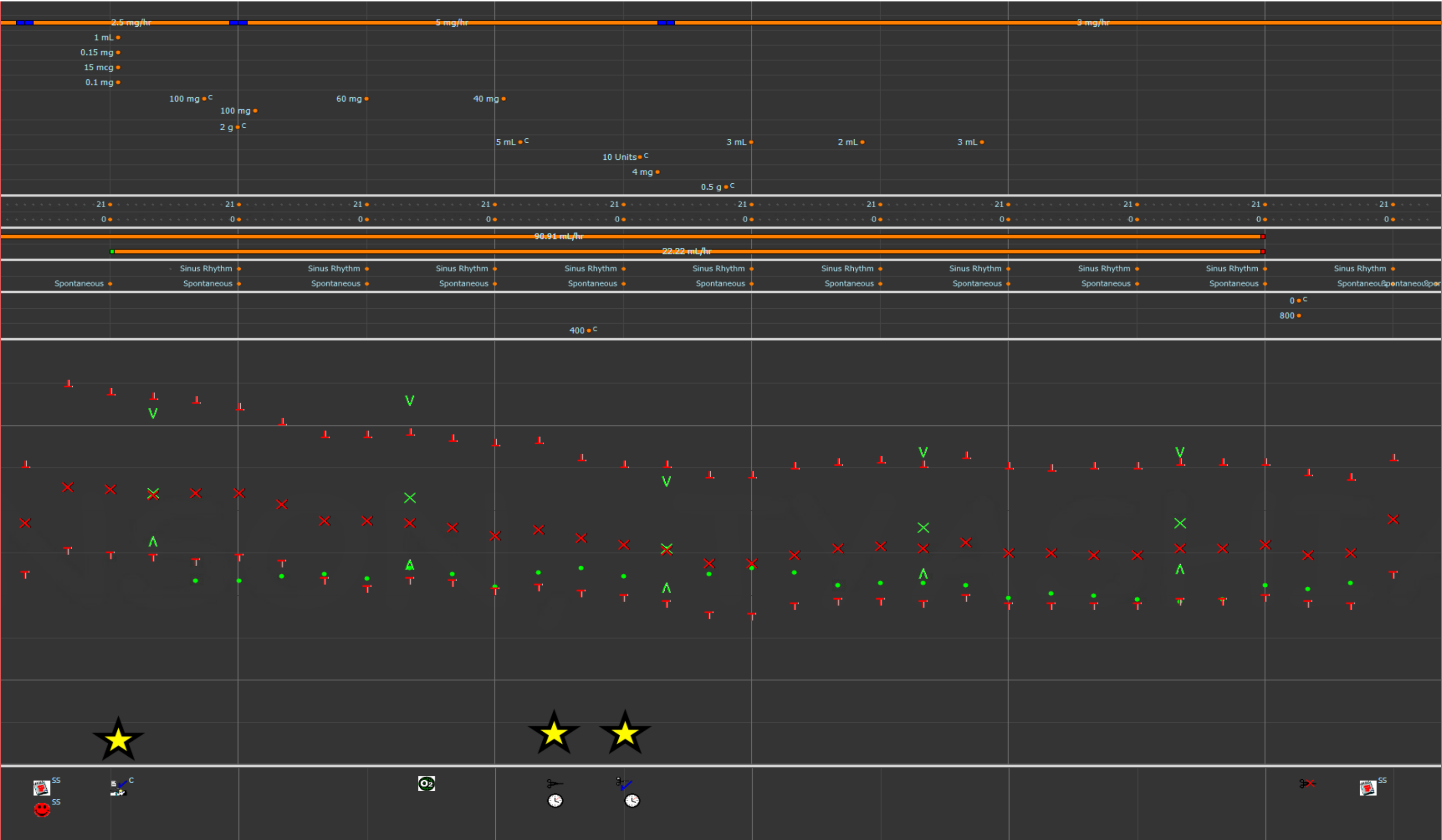
- 20% of parturients within the first and second trimester and up to 40% of parturients during the third trimester reported to have pericardial effusion
- Increased blood volume in pregnancy can mask signs of cardiac tamponade
- Judicial monitoring of worsening pericardiac effusion is critical
- Proper planning and risk assessment via a multidisciplinary approach allows for adequate anesthetic management in these cases

Case:

25-year-old G1P0 at 25 weeks presented w/:

- Hypertensive emergency c/b SAH and eventually stabilized on 4x antihypertensives and intermittent need for nicardipine gtt with no signs of increased ICP or midline shift on most recent CT head.
- ESRD on HD c/b hypervolemia leading to worsening pericardial effusion on most recent TTE (EF 64%, nl valves, some RV collapse in diastole, PASP 39) and hepatomegaly/ascites.
- Physical exam was notable for bilateral crackles on lung auscultation and mild ascites
- CARPREG II score = 4 (pulmonary HTN+2, no prior cardiac intervention+1, late cardiac assessment+1) = 22% risk of MACE

Management

25-year-old G1P0 at 25 weeks presented w/ hypertensive emergency c/b SAH, ESRD c/b hypervolemia and worsening pericardial effusion		Urgent primary classical cesarean section Anesthetic plan consisted of pre-neuraxial right radial arterial line followed by a low dose-combined spinal epidural Cardiology and cardiac anesthesia teams on standby for urgent pericardial window	 The image shows a multi-panel anesthetic management timeline. The top panel displays drug dosages: 1 mL of 1% hyperbaric bupivacaine, 15 mcg of fentanyl, and 150 mcg of morphine. The middle panel shows vital signs: SpO2 (98%), HR (60-70 bpm), BP (100/60 mmHg), and RR (12-14 bpm). The bottom panel shows ECG waveforms. Three yellow stars mark key events: the first star is at the start of the case, the second star is at the time of spinal anesthesia, and the third star is at the time of delivery.	Hemodynamics remained stable throughout the case and the patient was taken to the cardiac ICU for post-operative monitoring
PMH	Risk Assessment	Anesthetic Plan	Anesthetic Management	Outcome
	CARPREG II score = 4 Multidisciplinary risk assessment and planning		Low dose-combined spinal epidural: 7.5mg hyperbaric bupivacaine, 15mcg Fentanyl, and 150 mcg Morphine Followed by 300mg epidural 2% lidocaine over 45 minutes 10 units of oxytocin was administered intramuscularly after delivery with adequate uterine tone within 5 minutes Fluid intake was tightly regulated with a total of 300cc crystalloid infused throughout the case	



Takeaways:

- Up to 40% of parturients experience pericardial effusion
- The physiologic changes of pregnancy can mask symptoms of cardiac tamponade and can worsen disease outcome
- A low-dose combined spinal epidural allows for less hemodynamic shifts in high-risk patients
- Tightly regulated fluid intake is vital to avoid exacerbating the patient's volume overload
- The multidisciplinary approach to this patient's care, optimization of her fluid status, and close hemodynamic monitoring perioperatively facilitated this successful outcome.



References:

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