Management of a Pregnant Patient with Severe Pulmonary Hypertension

Abstract Type: Case Report/Case Series
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Introduction: Management of pregnancy, labor and delivery in a parturient with pulmonary hypertension is always a challenge. Regardless of the severity of the disease, the mortality rate is extremely high. A multidisciplinary team approach is vital to achieve favorable outcomes.

Case Report: A 23 year old G4P3 pregnant female at 35 weeks of gestational age presented with progressively increasing shortness of breath, swollen extremities, jaundice and itching. Denied any significant medical or surgical history. ECG showed sinus tachycardia with right axis deviation and right ventricular hypertrophy. 2D transthoracic echocardiogram (Figure 1) showed normal systolic function, severe right atrial and ventricular enlargement, severe pulmonary hypertension with PA systolic of 88mmhg, moderate to severe tricuspid regurgitation and mild pulmonary insufficiency. Chest X-ray showed fluid overload without pleural effusion. MRI cholangiopancreatography showed gallbladder sludge. The patient was admitted and transferred to coronary intensive care unit and labor was induced. An arterial line was placed for close monitoring of blood pressure and blood gases. After coagulation status was deemed acceptable, she received a combined spinal epidural for labor analgesia. The patient was placed on prophylactic phenylephrine infusion to maintain blood pressure. Oxygen supplementation via non-rebreather facemask was given to maintain optimal oxygenation and prevent exacerbation of the pulmonary hypertension secondary to hypoxia. Patient underwent NSVD with normal anticipated blood loss but required transfusion with 1 unit PRBC due to low baseline hematocrit. She underwent a full cardiac workup postpartum including a right heart catheterization which revealed recurrent pulmonary thromboemboli and AVM in the right middle lobe. The patient was placed on thromboprophylaxis for the rest of the hospital stay. Due to the high risk for peripartum complication, the patient remained in CICU for 2 weeks for further tests and monitoring.

Discussion: Mortality associated with pregnant women with PH is most common during the time of delivery or in the early postpartum period. The most common cause is abrupt right ventricular dilatation and failure, which in turn leads to left ventricular ischemia, failure and dysrhythmias. Management of these patients is complex: Oxygen therapy, hemodynamic monitoring, epidural analgesia, controlled delivery, and prompt anticoagulation are vital. The importance of a multidisciplinary team approach with good communication among the teams and with the patient is well established for favorable outcomes.
