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CASE REPORT

MATERNAL DISTRESS, FOR EMERGENCY CAESARIAN SECTION: IN A PATIENT WITH CRYPTOGENIC CIRRHOSIS, BICUSPID AORTIC VALVE, SEVERE PREECLAMPSIA AND SUPERADDED RESPIRATORY INFECTION

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ABSTRACT: A 29 –year old parturient at 35weeks of gestation, a known case of cryptogenic cirrhosis with mild pre-eclampsia, bicuspid aortic valve, aortic stenosis, aortic regurgitation and, breathlessness with superadded respiratory infection was scheduled for an emergency lower segment caesarean section in view of maternal distress. Emergent surgery was conducted with a graded dose lumbar epidural anaesthesia under adequate precautions and stringent intraoperative monitoring, extending analgesia for 48 hours postoperatively with epidural infusion. This report describes the management of a rare case of maternal distress for emergency caesarean section.
KEYWORDS: Maternal distress, Caesarean section, cryptogenic cirrhosis, Bicuspid aortic valve.

INTRODUCTION: Though pregnancy is physiological condition, it can be considered as potentially dangerous category. Maternal physiologic changes in pregnancy occur as a result of hormonal alterations, mechanical effects of the gravid uterus, increased metabolic and oxygen requirements, metabolic demands of the fetoplacental unit, and hemodynamic alterations associated with the placental circulation. Such changes become more significant as pregnancy progresses, and they have major implications for anesthetic management, especially in high-risk parturients. Moreover, these changes become worse when a parturient is also having co-morbid conditions involving major systems. Pregnant patients are more prone for respiratory infections, due pulmonary congestion which is part of their physiological changes which worsen with coexisting cardiac disease. Here we discuss a case of parturient having Cryptogenic cirrhosis, Bicuspid aortic valve, mild Aortic stenosis (AS), moderate Aortic Regurgitation (AR), preeclampsia with impending cardiac failure and super added respiratory infection for emergency Lower Segment Caesarian Section (LSCS) surgery.

CASE REPORT: A 29 year old lady with gestational age of 35 weeks presented to the obstetric emergency with acute onset of breathlessness, fever and cough with yellowish sputum. History revealed preexistent cryptogenic cirrhosis and mild preeclampsia, on treatment with oral Nifedipine and Methyldopa. Systemic evaluation revealed hyperdynamic precordium with ejection systolic murmur. Subsequent echocardiography revealed bicuspid aortic valve with mild AS, moderate AR and good ventricular function. Treatment with anti-hypertensive medications, oxygen inhalation, antibiotics, bronchodilators, antipyretics diuretics were initiated in the high dependency unit. Further evaluation revealed normal liver enzymes and platelet count of 60,000/mm^3, which improved to 1,00,000/mm^3 on platelet transfusion. However on second day of admission patient decompensated with progressive dyspnoea and pulse oximetry oxygen saturation of 93% with face mask oxygen at FiO2 of 0.4mmHg. No features of fetal distress were evident on cardiotocography.

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Emergent caesarean section delivery was planned. Plan of anaeshesia was graded dose lumbar epidural anaesthesia.

She was positioned in left lateral position with head up tilt. American Society of Anaesthesiologists (ASA) standard intraoperative monitoring was used. L3-4 epidural space was identified by loss of resistance technique, with 18G Tuohy needle and catheter, fixed at 11cm. Test dose of 3ml 2% lignocaine with 1/200000 adrenaline proved negative. Further bolus epidural dose of 7 ml 2% lignocaine with 1/200000 adrenaline provided adequate dermatomal level for surgery. Pulse oximetry saturation at same FiO2 improved which corroborated clinically, after epidural bolus. LSCS was done and delivered a live male baby of APGAR score 9 at 1, 5 and 10 minutes. Stringent monitoring continued to the further intraoperative period. Post-operative analgesia was provided with 0.125% Bupivacaine 6ml/hour using syringe pump. Her chest signs and fever subsided within 24 hours. Further post-operative period was uneventful. She was discharged ambulatory from the hospital on the 6th post-operative day.

DISCUSSION: Maternal distress is an indication for emergency delivery. In our case the parturient worsened from mild preeclampsia to severe as gestation progressed. Immediate relief of dyspnoea after epidural bolus may be hypothesized to a reduction in the cardiac preload.

Cryptogenic cirrhosis is a liver disease of unknown etiology.[1] It is possible that nonalcoholic fatty liver disease and hepatic steatosis envolve to cirrhosis. Exposure to environmental toxins like herbicides and fertilizers can be causative.[2] Other symptoms of the disease include fatigue, overall weakness, weight loss, bloody stools and swelling of abdomen. Elevated liver enzymes and thrombocytopenia in pregnancy are frequently associated with adverse peri-natal outcomes.[3]

The incidence of Bicuspid aortic valve (BAV) is roughly 2% of general population,[4,5] with male predominance of 4:1.[5] A bicuspid aortic valve may be functionally normal or it may be stenotic and/or regurgitant. Bicuspid aortic valve is the most common cause of isolated valvular aortic stenosis and regurgitation. Dilation of the ascending aorta is likely to coexist independent of valvular function.[6] Women with a bicuspid aortic valve should be counseled regarding potential risks and treatment prior to and during pregnancy. Women with BAV who are, or want to become pregnant need to collaborate with their health care team to ensure a safe and healthy pregnancy for mother and child. They are at risk for developing complications like aortic dissection.[7]

Preeclampsia is characterized by diffuse endothelial dysfunction with maternal complications like placental abruption, pulmonary edema, acute renal failure, liver failure, stroke, and neonatal complications - preterm delivery, fetal growth restriction, hypoxic-neurologic injury, and perinatal death.[8] The clinical syndrome of preeclampsia is defined as the new onset of hypertension and proteinuria after 20weeks gestation.[9] Cardiac failure is a known complication of preeclampsia. Pregnancies complicated by chronic hypertension are associated with a substantial increase in the risk of superimposed preeclampsia, reaching as high as 25%.[10]

The anesthetic choices Include:

1. Continuous graded lumbar epidural anesthesia.
2. Subarachnoid block with a reduced dose of local anesthetics with spinal dose of opioids.
3. General anesthesia with controlled ventilation.

Here we have chosen continuous graded epidural anaesthesia because the patient was having an element of cardiac failure, with superadded respiratory infection. Moreover the epidural assisted in extending the analgesia postoperatively.

CONCLUSION: Emergency caesarian section is always considered as challenge to anaesthesiologist since we are dealing with altered physiology in an otherwise healthy patient. Thorough monitoring and an individualized case based approach provide favourable outcome in medical conditions complicating pregnancy.

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