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ANESTHETIC CONSIDERATIONS IN A PARTURIENT WITH MITRAL VALVE ATRESIA AND SINGLE VENTRICLE PHYSIOLOGY

Haret, D.M.; Fragneto, R. Anesthesiology, University of Kentucky, Lexington, KY We report the anesthetic management of a patient with complex cyanotic congenital heart disease who underwent successful labor, vaginal delivery and PPBTL. A 30 y.o.WF at 33 weeks gestation was admitted in active labor. Her cardiac anomalies included: dextrocardia with atrial situs solitus, levo-ventricular looping, d-transposition of the great vessels, mitral atresia, large non-restrictive ASD and VSD, and moderate pulmonic stenosis. After the placement of standard ASA monitors and administration of supplemental O2, a left radial arterial line and right internal jugular CVP line were inserted using aseptic technique with meticulous removal of air bubbles. An epidural catheter was purposely placed intrathecally at the L2-3 space using a loss of resistance to saline technique. CSF was easily aspirated. Fentanyl 25 mcg was administered and prompt pain relief was achieved. During labor, the patient experienced 1 episode of mild hypotension that promptly resolved with a 500ml NS IV bolus. She remained pain-free and within 2 hr delivered a healthy baby. O2 sat. was 90-94% throughout labor and delivery. EBL was 600ml, and she received 2 units of PRBC to keep her Hct45%. The patient remained stable postpartum and underwent BTL 1 hour later. The spinal catheter was slowly and incrementally dosed with 1.5% hyperbaric spinal lidocaine + fentanyl to achieve a T6 sensory level. She tolerated anesthesia and surgery well and remained stable during her PACU stay. She was sent to the ICU for 24 hr observation. Mother and baby were discharged on PPD 3. The patient developed no complications, including headache. Successful anesthetic management of a patient with cyanotic congenital heart disease requires an understanding of the pathophysiology of the intracardiac shunt. Our anesthetic goal in this patient was to provide reliable labor analgesia and anesthesia for BTL that would not significantly alter her hemodynamic state, thus allowing us to maintain an adequate pressure gradient across the stenotic pulmonic valve and keep the ratio of intracardiac shunt at the same level as prepartum. Using an intrathecal catheter and information from our invasive monitors to guide anesthetic dosing, we were able to accomplish this goal. We also maximized the oxygen supply/demand ratio by increasing Hb to improve oxygen-carrying capacity and decreasing oxygen consumption by providing satisfactory analgesia. The patient's abnormal anatomy was a relative contraindication to the placement of a PA catheter. In addition, thermodilutional CO measurement is inaccurate in the setting of intracardiac shunt. Therefore, we chose not to place a PA catheter. *Lockhart EM, et al. SvO2 Monitoring during Spinal anesthesia and Cesarean Section in a Parturient with Severe CCHDAnesthesiology1999; 90:1213-15*

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BRADYCARDIA/ASYSTOLE AFTER LOW DOSE CSE LABOR ANALGESIA - IS IT BEZOLD-JARISCH REFLEX? A CASE DISCUSSION OF ETIOLOGY & MANAGEMENT

PAN, P.H.[1,2] *MOORE, C.H.*[2] 1. Anesthesiology, Wake Forest University, Winston-Salem, NC; 2. Anesthesiology, Medical College of Virginia, Richmond, VA Cardiac arrests during spinal anesthesia(SAB) have been reported, but not with "low dose CSE labor analgesia". We present such a case discussion of its etiology and management. A 27 y/o BF, (325 lbs, 62"), G2P0, with 34 wks IUP, presented with PROM for induction. A functioning epid catheter was placed and an epid infusion of 1/8 bupiv + 2 ug/cc fentanyl was started. She was comfortable until 6 hrs later when the catheter dislodged and she had no sensory analgesic level remained. With significant labor pain, intrathecal(IT) sufentenil 10ug, bupiv 1.75mg and 0.1 mg of epi were administered(admin.) via CSE in the sitting position. She was A/OX3 and comfortable in 2 mins with a sensory analgesia level of T11. 20 mins later, cervical exam revealed C/9/+1. And an epidural test dose(3 cc of 2% lido with epi) was admin. without signs of IV or IT admin. 6 minutes after the test dose and cervical exam, patient abruptly became unresponsive with shallow resp and non-palpable pulse. Resuscitation was initiated immediately with 100% O2, bolus LR, and ephedrine 20mg IV. Patient was intubated and ventilated within 2 minutes and placed on left tilt. EKG revealed agonal rhythm. Atropine 1mg IV was admin. and EKG revealed sinus tachycardia of 110/min with palpable pulses. Within 10 minutes, patient bucked on the ET tube and moved all extremities non-purposefully with good motor tone for a few minutes, then stopped and was unresponsive but remained hemodynamically stable with normal resp rate. Naloxone 0.2mg IV X 2 was admin. without improvement in her mental status. A live fetus with APGAR 8/8 was delivered vaginally by forcep 20 mins later. Patient remained intubated and was transferred to ICU for further workup and observation. Labs, brain CT/MRI and V/Q scan were normal. She was extubated the next day and was discharged 2 days later with a normal neurological exam except for mild short term memory deficit. We hypothesize the etiology to be a combination of Bezold-Jarisch Reflex under spinal analgesia, with supine hypotension in an obese pregnant patient shortly after a cervical exam in the supine position. We ruled out IT catheter or total spinal with negative aspirate and patient's ability to move all extremities and diaphragm well within 10 mins. Subdural catheter and respiratory depression from sufentenil are possible but the acuteness makes them less probable. The prompt admin. of O2 ventilation, fluid, left tilt, vasopressor and atropine are essential for the prompt return of stable hemodynamics as suggested by Caplan's report of a series of cardiac arrests during SAB. Brown attributed the successful management of bradycardia/arrest with rapid stepwise escalation of treatment with atropine, ephedrine and epi.