2269

LIPID-EMULSIONS AS AN ADJUVANT TREATMENT FOR AMNIOTIC FLUID EMBOLISM.

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Background: Amniotic fluid embolism (AFE) can occur during pregnancy or shortly after delivery, with an incidence of 1,7-6,6/100.000 deliveries (1). It provokes an inflammatory and anaphylactoid response leading to cardiogenic shock, respiratory failure, coagulopathy and coma. We report the case of an AFE, which resulted in a cardiac arrest. The administration of lipid emulsion possibly helped in the recovery of the parturient.

Case Report: A 33 year-old woman (G5A2C2) with gestational diabetes attended the obstetric emergency department of our hospital for her 3rd delivery. An emergency cesarean delivery was indicated due fetal distress. A spinal anaesthesia (hyperbaric bupivacaine 8mg plus 20mg fentanyl), with insertion of an epidural catheter for postoperative analgesia was performed using a combined technique uneventfully. After fetal extraction and during placental extraction, the patient presented a sudden dyspnea and a refractory hypotension, which did not respond to vasoactive agents and resulted in a severe bradycardia and a cardiac arrest. The advanced cardiopulmonary resuscitation was started using epinephrine, hydrocortisone and amiodarone. The patient recovered a pulse activity after 8 minutes, and an 250ml intravenous infusion of 20% intra-lipid emulsion was administered over 15 minutes (0.25mL/kg/min). At the end of surgery, a pulmonary CT-Scan was performed to discard pulmonary embolism. The patient was then transferred to the maternal intensive care unit under mechanical ventilation. EKG, troponins and blood tests values remained normal, and no cardiac, respiratory or neurological damage was encountered. On day 1, patient showed a complete recovery and she was extubated. On day 2 was discharged from ICU.

Discussion: In AFE, inflammatory mediators produce a pulmonary vasoconstriction that can lead to pulmonary hypertension, right ventricle failure and myocardial depression (2). A clinical trial in rats shows that lipid emulsion solutions suppress/reduce inflammation, fibrosis and hypertrophy in both lungs and heart (3). This effect might have helped in the recovery of our patient.

Learning points: Lipid-emulsion solutions could have a role for treatment and prevention of complications of AFE. Further studies should be done to assess this point.

- (1) Sultan P et al. Curr Opin Anaesthesiology. 2016 Jun;29(3):288-96
- (2) Stanten RD et al. Obstet Gynecol 2003; 102:496 – 8
- (3) Umar S et al. Hypertension. 2011 Sep;58(3):512-8