VOLUME - 10, ISSUE - 09, SEPTEMBER - 2021 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Anaesthesiology

ANAESTHESIA FOR CAESAREAN SECTION IN ECLAMPTIC PARTURIENT IN UNCONSCIOUS STATE AND MANAGEMENT OF SEVERELY RAISED BLOOD PRESSURE INTRAOPERATIVELY AND POSTOPERATIVELY.

Dr. Chandrashekhar prasad* (Pg3), Department of Anaesthesiology and critical care, Narayan Medical College and Hospital, Sasaram, Bihar. Corresponding Author

Dr. Ashish Prakash prasad (Pg3),

Dr. Mukesh Kumar (Pg3),

ABSTRACT

Eclampsia, is one of the most common emergency encountered by anaesthesiologists. Anaesthesiologists are considered key member of a multidisciplinary team providing management to an eclampsia patient. It is characterized by a convulsive disorder associated with pre-eclampsia before during or after labor. It has an unpredictable outcome with high morbidity and mortality. Controlling of seizures, maintaining blood pressure and vitals parameters are key components of a successful outcome for both mother and baby. Recent literature about antihypertensive and seizure prophylaxis is reviewed. Labetalol, hydralazine, diazoxide and nifedipine is considered as the most common used drugs and their dosage is revised in the light of the recent literatures. In this case we have also used NTG intraoperatively and postoperatively. Magnesium sulphate is the most effective agent for seizure prophylaxis Definitive treatment is termination of pregnancy. Choice of anaesthesia for lower segment caesarean section depends on condition of mother and foetus. Both regional and general anaesthesia have their own advantages and disadvantages. Role of regional anaesthesia (spinal, epidural) is well established in conscious and stable patients. General anaesthesia is preferred in parturient who are unconscious, developed pulmonary oedema, raised intracranial tension, coagulopathy, low platelets counts.

We present a safe and successful conduct of LSCS under general anaesthesia, in eclampsia patient with severely raised blood pressure intraoperatively and postoperatively.

KEYWORDS :

INTRODUCTION:

Eclampsia is an unpredictable, multisystem disorder characterized by the occurrence of generalized convulsions and/or coma in a preeclamptic patient and in the absence of any other neurological condition before during or 7 days after labor[1]. Preeclampsia affects 5-8% of all pregnancies worldwide [2].Despite increased awareness and advancement in medical treatment, eclampsia, along with the other hypertensive disorders of pregnancy is a leading cause of perinatal maternal and fetal mortality and morbidity globally. According to WHO estimation, eclampsia is the cause of 12 % of all maternal death globally[3]. Eclampsia probably accounts for 50,000 maternal deaths a year worldwide[4]. In India, reported incidence of eclampsia varies from 0.179 to 3.7 % [5–7]. And maternal mortality varies from 2.2 to 23 % of all eclamptic women [7–9].Risk factors for eclampsia include nulliparity, multiple gestation, molar pregnancy, pre-existing hypertension or renal disease, previous severe preeclampsia or eclampsia, nonimmune hydrops fetalis, and systemic lupus erythematosus[10]. Role of anaesthesiologist in eclampsia is to help obstetrician to control and prevent further convulsions, actively control blood pressure, establish a clear airway, prevent major complications, to provide labor analgesia and to provide anaesthesia for caesarean section.

Here we present a case of urgent LSCS under general anaesthesia in an eclampsia parturient presented in unconscious state with severely raised blood pressure and episodes of seizures. Post LSCS she had severely raised blood pressure while seizure episodes were settled.

CASE REPORT:

A 24 years old women, weighting 65kg, G2P1 with 34 weeks of gestation was brought to our emergency department in drowsy state after she had 4 episodes of seizures at home. She is a known case of hypothyroidism for she was taking tab thyronorm 50mcg once a day. She had a history of appendectomy 6 years back. On examination she was disoriented, delirious, agitated with GCS of E2V2M4. Her vitals were P-98/min, BP-189/116 mmhg, RR-29/min, spo2-94%on room air, RBS- 118mg/dl. Pallor (+), oedema (++). Chest- bilateral equal air entry, cvs- no added sound, P/A- soft, FHR-138/min.

Lab investigations showed Hb- 10.8gm%, TLC- 15300/cumm, platelet- 1.8lakhs/cumm, INR-1.12, urea- 28mg/dl, creatinine-0.8mg/dl, sodium- 134.8, potassium- 4.3, bilirubin(T/D)-1.4/0.5, SGOT- 242(raised), SGPT- 152.3(raised), ALP-319(raised), albumin-3.2.

Immediately patient was admitted in obstetric department. O2 inhalation @3-4litres/min by face mask started. After securing 2 large bore IV cannula, inj labetalol 20 mg iv given along with inj magnesium sulphate 4gm iv stat over 20 mins. Foleys catheterization done.

After proper assessment of patient, a decision for emergency LSCS was taken. After obtaining consent patient was shifted to operation theatre. In OT patient became unconscious with worsening GCS, a decision for general anaesthesia was taken after discussion with obstetrician.

After proper and quick airway assessment and keeping difficult intubation in mind she was premedicated with inj. Metoclopramide 10 mg IV, inj glycopyrolate0.2mg iv, inj midazolam 2 mg iv.

Induction was done with inj. Propofol 80mg IV + inj. Fentanyl 50mg IV. Rapid sequence intubation was done using sellick"s maneveour and after giving inj. Labetalol 40mg IV + inj succinylcholine 75mg iv. ET tube of 6.5 was used. Bilateral air entry checked cuff inflated and fixed at 21cm.

Maintenance of anaesthesia was done with inj. Vacuronium 3mg iv stat then 1mg incremental dose + O_2 and N_2O@ (3:3) litres/min + isoflurane@MAC 0.5. Mechanical ventilation with volume control mode (VCV) was done @ tidal volume = 8 mL/kg, and FiO_2 = 80%, RR-12/min, PEEP-5cmH_2O.

Intraoperatively patient BP was persistently rising towards higher side (180/120 > 200/120> 220/130) mmhg. Inj. Labetalol 20mg > 40mg > 80mg was given at 15-20 mins interval but her BP was still high (200/120) thus inj. NTG infusion was started @ 10mcg/min and gradually increased by 5mcg/min at every 5-10 mins interval upto 40mcg/min. at the end of surgery her BP was 160/95mmhg. Intraoperatively inj $Mgso_4$ 4gm IM was given prophylactically. She had no further episodes of seizure on OT table.

A baby girl was delivered weighing 1.6kg. Her APGAR score was 6 and 8 at 1 and 5 mins interval. After giving $O_2$by bag and mask she was admitted in NICU.

Postoperatively patient was unconscious. After giving reversal agent (inj. Myopyrolate 5ml) she was shifted to ICU and kept on mechanical ventilation VCV mode. Next day she taken off ventilator support and extubated. She was maintaining SpO_2 of 94-96% with O_2 support by face mask. Post op her BP was again in higher side for which NTG infusion was given along with inj. Labetalol. Gradually she was tapered off NTG support and kept on T. labetalol and T. nicardipine. On 6th post-operative day she was discharge with BP of 136/80 with all vitals parameters in normal limit.

DISCUSSION:

Eclampsia, being a complex disease syndrome, taxes the expertise of the most experienced anaesthesiologists, who has to focus on maintenance of airway, blood pressure stabilization, optimisation of fluid status, prevention of seizures and in delivering the baby[11]. The choice of anaesthetic technique for patients with eclampsia remains controversial and quite challenging.

Both regional and general anaesthetic technique have their own advantages and pitfall. Regional anaesthesia seem a safer option as its avoids potential problems associated with general anaesthesia such as risk of difficult airway, exaggerated hypertensive response to laryngoscopy and intubation, risk of aspiration pneumonitis and drug interactions between magnesium and non-depolarizing muscle relaxants[12]. Regional anaesthesia is associated with risk of sudden severe hypotension and unable to control airway in case of ongoing seizure or hemodynamic instability.

GA is a preferred choice in parturients with coagulopathy, pulmonary oedema or eclampsia who are unconscious with GCS < 9[13]

Managing intraoperative and postoperative hypertension in an eclampsia patient is also a challenging task for anaesthesiologists. In our case patient had persistent high BP pre, intra and post operatively. Intraoperatively her BP was raised upto 200/120. Such a high BP can pose a risk of intracranial bleed. For managing intraoperative high BP Labetalol is usually administered 10 to 20 mg IV, then 20 to 80 mg increments every 20 minutes, a continuous infusion dosage 1 to 2 mg/min recommended. Nifedipine is recommended by oral route only 10 to 30 mg PO, repeat in 45 minutes if needed. NTG infusion can be given @ 0.5-5 microgram/kg/min. Sodium nitroprusside is rarely used in pregnancy and has known maternal adverse effects of hypotension and paradoxical bradycardia in women with severe pre-eclampsia. Fetal cyanide toxicity is a complication of prolonged treatment. Sodium nitroprusside should be used with extreme caution in situations of life-threatening hypertension, immediately before delivery in circumstances where clinicians are familiar with its use [14].

REFERENCES:

1. Cunningham FG, Leveno KJ, Bloom SL, Hauth JC, Rouse DJ, Spong CY. Williams Obstetrics. Pregnancy hypertension. 23rd ed. Chap. 34, New York: McGraw-Hill; 2010. p. 706-56.
2. Lewis G (2007) He Confidential Enquiry into Maternal and Child Health (CEMACH). Saving Mothers Lives: Reviewing Maternal Deaths to Make Motherhood Safer. He Seventh report on Confidential Enquiries into Maternal Deaths in the United Kingdom. London: CEMACH
3. WHO Reduction of maternal mortality. A joint WHO/UNEPA/UNICEF/World Bank Statement, Geneva, 1999
4. Doley L. Maternal mortality associated with hypertensive disorder of pregnancy in Africa, Asia, Latin America and Caribbean. *Am J Obstet Gynecol*. 1992; 99:547–553. [PubMed] [Google Scholar.
5. Vanawalla NY, Ghamande S, Ingle KM. A five year Analysis of Eclampsia. *J Obstet Gynecol India*. 1989; 39:513–515. [Google Scholar]
6. Suman G, Somegowda S. Maternal and perinatal outcome in Eclampsia in a District Hospital. *J Obstet Gynecol India*. 2007; 57:324. [Google Scholar].
7. Sing K, Medhi R, Bhattacharjee AK, et al. Book of Abstract, 53rd AICOG, Guwahati 2010. p. 17.
8. Chandriole N, Singh S, Dhillon BS. Eclampsia, care hood and management practices at tertiary hospital in India (ICMR), New Delhi. Book of Abstract AICOG, Guwahati; 2010. p. 33.
9. Pal A, Bhattacharjee R, Bannerjee Ch, et al. Maternal mortality over a decade in a referral Medical College Hospital, West Bengal. *Indian J Perinatol Reprod Biol*. 2001; 04:10–13. [Google Scholar]
10. Sibai BM. Eclampsia. VI. Maternal-perinatal outcome in 254 consecutive cases. Am J Obstet Gynecol 1990;163:1049-55]
11. . Smith GC, Fretts RC. Stillbirthsseminar. Lancet. 2007; 370(9600):1715- 25. [PubMed
12. Sinatra RS, Philip BK, Naulty JS, Ostheimer GW. Prolonged neuromuscular blockade with Vacuronium in a patient treated with magnesium sulfate. Anesth Analg. 1985; 64:1220-2. [PubMed]
13. Dennis AT. Management of pre-eclampsia: issues for anaesthetists. Anaesthesia. 2012; 67(9):1009-20. doi: 10.1111/j.1365-2044.2012.07195.x. [PubMed] [Free full text]
14. Duley L, Henderson-Smart DJ, Meher S. (2006) Drugs for treatment of very high blood pressure during pregnancy. Cochrane Database of Systematic Reviews 3: CD001449.