



## **Eclampsia: A Well Preparedness Can Save the Day**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

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### **Case Report**

## **ABSTRACT**

Maternal mortality is one of the indicators of an efficiently working healthcare system. Eclampsia is one of the preventable causes of maternal mortality and thus it is important to identify the signs in the preeclampsia phase and treat it efficiently to prevent the mishap. Many times, the detection of eclampsia is delayed due to improper history, late referral, ignorance, and delay in transportation or hospitalization. This report presents a 22 yr. old pregnant female, who presented to the hospital and before considering her for admission and shifting to ward, she threw convulsions. This report emphasizes on successful and timely management of such cases and the precautions which help to reduce maternal and fetal mortality.

*Keywords: Eclampsia; hypertension; headache; Doctors and proteinuria.*

## **1. INTRODUCTION**

Eclampsia is defined as seizure activity associated with preeclampsia [1-4]. As per

ACOG guidelines, diagnosis of preeclampsia is made with presence of hypertension, headache, and proteinuria in pregnant patients [5]. Doctors and nursing staff should have an elevated sense

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of caution and responsibility with preeclampsia patients who have blood pressure on the higher side [6]. Many times, the detection of eclampsia is delayed due to improper history, late referral, ignorance, and delay in transportation or hospitalization [7].

## 2. CASE REPORT

22yrs. old female, primi with 37 weeks of gestation with preeclampsia, presented to the OPD with complaint of vertigo for 1 hour. Suspecting preeclampsia, the patient was advised to get admitted. As soon as the patient was shifted to ward, she threw convulsions. We received a call from the ward for help. As we reached the ward, the patient was in active convulsion. We managed the airway and thus prevented chances of aspiration and tongue bite. We gave the left lateral position, oxygen at 4 liters per minute with nasal prongs. Inj. Magnesium sulphate full dose (IV & IM) was already given by obstetrician & IV ringer lactate was running. Convulsions sustained for 40-45 sec, were tonic & clonic in nature, with tongue bite. Her vitals were HR=122/min, BP-150/100mmhg. Inj Labetalol (10mg) IV was given. Within a time, span of 2-3 minutes, she again convulsed, with the same pattern as before. This time Inj Midazolam (2mg) IV was given. Patient's convulsion was settled and was planned for a cesarean section for safe delivery of the baby. While the patient was being shifted to the operation theatre again, she got an episode of convulsion. Immediately she was shifted to the operation table, oxygen mask held, and was induced with Inj Propofol (100mg). Patient convulsions were settled after Propofol. Vitals were HR-128/min, BP-144/92mmhg, SPO2-100, mask ventilation checked with one puff as history of Nil By Mouth since 8 hours was available, followed by Inj Scoline (100mg) and airway secured with 7.5mm cuffed endotracheal tube. Meanwhile, Inj Ondansetron (4mg) & Metoclopramide 10mg were given. Inj Pantoprazole 40mg was put in normal saline 100ml.

She was maintained on O<sub>2</sub>, air and Sevoflurane (1%) & vitals were maintained around HR-101/min, BP-122/68mmhg, and SPO2-99%. Baby was delivered, cried immediately after birth and was handed over to pediatrician. Inj Pitocin (15IU) was started in drip. Inj Fentanyl (60mcg), Inj Atracurium (30 mg) was given as top up. Further in the next 20min, the surgery was over. Patient had good breathing efforts so planned to

reverse and extubate. So, patient was reversed with Inj Myopyrolate (5ml i.e., neostigmine 2.5mg + glycopyrrolate 0.5mg) & extubated with gentle airway toilet. Patient was following commands. Urine output was clear and 200ml. Blood loss was 800-1000ml. Throughout surgery patient received 1500 ml of fluid (2RL AND 1DNS). For further observation, the patient was shifted to ICU for 24 hrs.

Patient was in ICU for the next two days under observation. She was vitally stable, maintained on Inj MgSo<sub>4</sub> for the next 24hrs. Neurophysician consultation was obtained; he added Inj Levipil (500mg). EEG was done which was normal, so it was confirmed that eclampsia was the cause of convulsion. MRI was done to rule out intracranial hemorrhage. MRI showed Posterior Reversible Encephalopathy syndrome (PRES) for which only symptomatic treatment was suggested. After two days the patient was shifted to the ward and discharged on the 5th day of delivery.

## 3. DISCUSSION

This case report emphasizes on some of the important factors that are responsible for increased mortality due to eclampsia [8]. Eclampsia is a very serious entity & if not managed well in time, can be life threatening for mother & fetus as well. In our country, there is minimal utilization of antenatal care especially in remote areas and thus patients present to the hospital directly near term [9]. Many a times to recognize symptoms and treat it efficiently to prevent complications further, is not possible. Thus, it is important to keep well equipped wards and well trained staff to treat such emergencies [10].

The pathophysiology of eclampsia is considered under two hypotheses, first is deterioration of autoregulation of cerebral blood flow due to blood pressure, causing endothelial damage and extracellular edema and second is cerebral autoregulation as a result of raised blood pressure due to which arterial vasospasm, leading to reduced brain perfusion [11]. The seizures seen in eclamptics are self-limiting and usually last no longer than 5 minutes.

The WHO recommends magnesium sulphate as a safe, cheap, and effective drug for the treatment of eclampsia [12]. There are several regimens for the administration of magnesium sulfate. The regimen used for this patient involved a loading bolus dose of 4g of

magnesium sulphate given intravenously over 20 minutes and 10g given intramuscularly (5g in each buttock) [13]. A maintenance dose of 5g was given intramuscularly into each buttock alternately every 4 hours over a 24-hour period.

Eclampsia and preeclampsia account for approximately 63,000 maternal deaths annually worldwide. In developed countries, the maternal death rate is reportedly 0-1.8%. The perinatal mortality rate from eclampsia in the United States and Great Britain ranges from 5.6% to 11.8%. The maternal mortality rate is as high as 14% in developing countries [14]. Severe eclampsia can cause both acute and long-term complications for both mother as well as child therefore recognizing it and preventing it, is the best option, and if not, then proactively managing it, once the patient reaches hospital [15-16]. For that, we should keep 5 beds reserved for PIH patients, specific staff to monitor, PIH kit ready which includes drugs like magnesium sulphate, labetalol, midaz, diazepam, nifedipine capsules etc. Airway kit should be kept ready which includes mouth gag, oral/nasal airway, LMA, Endotracheal tubes and AMBU resuscitator. Emergency drugs, oxygen cylinders and masks should be kept ready bedside. We should try to keep one PIH TROLLEY, in which we can keep all the stuff needed for efficient management of such cases to save time & prevent mishaps which is of utmost importance to reduce maternal morbidity and mortality [1-2].

#### 4. CONCLUSION

The purpose of this case report is to streamline eclampsia management by keeping strict vigilance for preeclampsia patients with or without signs and symptoms. This article emphasizes the importance of preparedness. Always keep few beds reserved as PIH, keep PIH kit ready and well-trained staff to save hassles free management of such cases, with positive outcomes and thus preventing maternal and fetal mortality related to eclampsia.

#### DISCLAIMER

The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by

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#### CONSENT

As per international standard or university standard, patient's written consent has been collected and preserved by the author(s).

#### ETHICAL APPROVAL

Ethical clearance taken from institutional ethics committee and preserved by author(s).

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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