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Original Research Article

Clinical study on postpartum eclampsia

Madhu J., Priya Shankar*

Department of Obstetrics and Gynecology, KIMS, Hubli, Karnataka, India

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***Correspondence:**

Dr. Priya Shankar,

E-mail: drpriyashankar7@gmail.com

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ABSTRACT

Background: Eclampsia constitutes one of the deadly triad along with malnutrition and anemia which authors encounter in the present tertiary hospital Karnataka Institute of Medical Sciences, Hubli. This study was done to study the epidemiological factors associated with postpartum eclampsia, correlation with neuroimaging and the maternal outcome. The objective of the present study was retrospective study of postpartum eclampsia over a period of 22 months.

Methods: A retrospective study conducted over a period 22 months from June 2015 to March 2017 in a tertiary care hospital, Karnataka Institute of Medical Sciences, Hubli. Case records of all postpartum eclampsia patients admitted during the period were analyzed.

Results: This study showed that incidence of postpartum eclampsia in our hospital was 1.4%. It is more common in age group of 20-25 years, more common in primipara (67.24%), commonest mode of delivery was vaginal route (86.2%), the occurrence of convulsion was more common within 24hrs after delivery. Most common CT scan finding was normal study (51.72%) followed by cerebral infarct (15.5%), cerebral edema (13.72%), PRES (10.34%). There were no cases of maternal mortality due to postpartum eclampsia during study period.

Conclusions: Eclampsia still remains a major cause of maternal morbidity, CT scan of brain gives valuable intracerebral information, and aids in a better management.

Keywords: Eclampsia, Neuroimaging, Postpartum eclampsia

INTRODUCTION

Eclampsia, the natural progression of untreated and unresponsive severe preeclampsia is a major contributor to maternal mortality.

It is not just eclampsia per se but the associated complications that accompany it that make it much more deadly. Eclampsia is defined as occurrence of one or more convulsions in pregnant woman with hypertension and proteinuria that cannot be attributed to any other cause. Postpartum eclampsia is defined as development of convulsions following delivery. In spite of several measures to improve antenatal services like RCH, NRHM

initiated by government, significant number of pregnant women still present in complicated state. Eclampsia is one among them. Incidence of preeclampsia is around 8-10%.¹ Incidence of eclampsia in India is around 1.5%.² Eclampsia accounts for 50,000 maternal deaths worldwide.^{3,4} Several recent studies have shown that postpartum eclampsia is on rising trend.⁵ When a woman presents with postpartum eclampsia, several other causes like tumors, abscess or infectious pathology like tuberculoma and associated comorbidities like CVT and intracerebral hemorrhage need to be addressed.

Cerebral pathology is the major cause for morbidity and mortality in postpartum eclampsia. Neuroimaging with

CT scan and MRI has helped greatly in understanding neurological manifestations of eclampsia. CT scan is less expensive and easily available. It forms the initial diagnostic tool and is complementary to MRI as also mentioned by previous studies.⁶

Eclampsia is associated with maternal death ranging from 1.8% in developed countries to 14% in developing countries.⁷ This study aims to assess the epidemiological factors, morbidity and associated intracranial pathology associated with postpartum eclampsia.

METHODS

Retrospective data analytic study of all patients who had postpartum eclampsia and were admitted in our hospital in KIMS HUBLI during a period of 22 months from June 2015 to March 2017.

A total of 19079 women delivered during this study period and the incidence of eclampsia were 283 patients. Case records of all women with postpartum eclampsia during the study period were studied and analyzed. Women who delivered at our institute having postpartum eclampsia along with women presenting with postpartum convulsions were included. Data such as age, parity, period of gestation as well as parameters like prodromal symptoms, signs, CT scan findings were analyzed. Any chronic medical disorder like diabetes were noted and excluded from study.

Inclusion criteria

- H/o Postpartum convulsion with BP > 140/90mm of Hg
- Presence of urine albumin
- No history of convulsions during antenatal and intrapartum period.

Exclusion criteria

- Patient with h/o epilepsy
- Seizures due to metabolic disorders.

Simple statistical methods like percentage and proportion were used to analyse the results.

RESULTS

A total of 58 patients who satisfied the inclusion criteria were included in the study and analyzed. Details like age of the patient, parity, mode of delivery, place of delivery, duration between delivery and the onset of convulsion, number of convulsions, prodromal symptoms, associated morbidity and mortality were noted. All patients with postpartum eclampsia underwent CT SCAN apart from PIH investigations in order to rule out any cerebral pathology. All cases of postpartum eclampsia with definite history of preeclampsia in antenatal period were put on MgSO4 therapy, rest were put on Phenytoin

regime. Majority of women belonged 20 to 25 years age group (Table 1) which is in keeping with the generally known trend of eclampsia occurring in extremes of age group.

Table 1: Age distribution.

Age in years	Number of patients	%
<20	1	1.7
20-25	40	68.9
26-30	12	20.6
>30	5	8.62

Majority of women with postpartum eclampsia were primigravida (67.24%) (Table 2).

Table 2: Parity.

Parity	Number of patients	%
Primigravida	39	67.24
G2	12	20.68
G3	7	12

Most of the cases were unbooked (Table 3).

Table 3: Booking status.

Status	Number of patients	%
Booked	8	13.7
Unbooked	50	86.3

Majority of women (86.2%) had vaginal delivery (Table 4).

Table 4: Mode of delivery.

Mode of delivery	Number of patients	%
Vaginal	50 (2 women had twins)	86.2
Instrumental	4	6.89
LSCS	6	10.34

Headache was the most common prodromal symptom followed by visionary changes. Some patients had more than one prodromal symptom (Table 5).

Table 5: Prodromal symptoms.

Symptoms	Number of patients	%
Headache	38	44.8
Blurring of vision	10	17.2
Vomiting	12	20.6
Loss of consciousness	8	13.7
No prodromal symptoms	15	25.8

43% of women had a single convulsion followed by 36.2% had 2 to 4 convulsions (Table 6).

Most of our patients developed convulsions within 24hrs of delivery while still in labor room under observation

(39.65%). 10 patients developed convulsions 7-14 days after delivery accounting to 17.25%. Authors had one case on postnatal day 15, and one case of postop day35 (Table 7).

Table 6: Number of convulsions.

Number of convulsions	Number of patients	%
1	25	43
2-4	21	36.2
>4	12	20.6

Significant women with postpartum eclampsia had comorbid condition like anaemia and thrombocytopenia.

Table 7: Duration between delivery and onset of convulsion.

Duration	Number of patients	%
<24 hrs	23	39.65
24-48 hrs	7	12.06
48-72 hrs	9	15.5
3-7 days	7	12.76
7-14 days	10	17.24
>14 days (PND 15)	1	1.7
>1 month (POD 35)	1	1.7

Mild to moderate anemia was seen in more than 50% of cases. Severe anemia was seen in 15% of cases (Table 8).

Table 8: Incidence of anemia.

Hb%	Number of patients	%
<5g	1	1.7
5-8g	8	13.7
8-10g	32	55.17
>10g	17	29.3

39.7% women with postpartum eclampsia had thrombocytopenia (Table 9).

Table 9: Incidence of thrombocytopenia.

Platelet count	Number of patients	%
<20000	1	1.7
20000-50000	6	10.37
50000-100000	8	13.7
100000-150000	8	13.7
>150000	35	60.3

Most common finding on CT scan was normal study (51.7%), followed by cerebral edema (13.72%), cerebral infarct (15.5%) (Table 10).

The present study had 3 cases of superior sagittal vein thrombosis and 2 cases of cerebral vein thrombosis and 6 cases of PRES (posterior reversible encephalopathy syndrome). One case who presented with convulsion on POD 35 had normal CT scan, EEG done showed

epileptiform waves, responded well with phenytoin regime.

Table 10: CT scan findings.

CT findings	Number of patients	%
Normal	30	51.72
PRES	6	10.34
Cerebral infarct	9	15.5
Cerebral vein thrombosis	2	3.44
Superior sagittal vein thrombosis	3	5.1
Cerebral edema	8	13.72
Hypertensive encephalopathy	-	-
Others(meningitis/hydrocephalus)	-	-

There were no cases of maternal mortality due to postpartum eclampsia during study period.

DISCUSSION

During the study period, 19079 deliveries in the present institute and 283 cases of eclampsia accounting to incidence of 1.4 %. This was in accordance with data analysis done by PB Nobis et al.¹ Numbers of postpartum eclampsia were 58 accounting to 20.49% of eclampsia cases. Sibai et al reports the incidence of postpartum convulsion as 18.25% which is similar to present study. Bharathi et al reported incidence of postpartum eclampsia as 35%.^{8,9}

Among cases of postpartum eclampsia, majority presented with convulsion within 24 hours. kayem et al¹⁰ reports incidence of 70% for women who developed convulsion <12 hours after delivery.¹⁰

The commonest prodromal symptoms in these patients were headache followed by visionary changes and lastly vomiting. This was similar to study done by Lubanshy SL et al, Chames et al.^{11,12}

Neurological complications of eclampsia are a major contributor to morbidity and mortality that is associated with eclampsia. To assess neurological complications, Authors used CT scan for neuroimaging.51% had normal study. Shamim Khandekar et al reported 36.8% normal findings in CT scan. PRES was observed in 15% of cases in present study.¹³ 50% of PRES cases revealed by MRI show normal CT scan in initial days.¹² Due to cost factor, MRI could not be done in our institute. In present study the incidence of cerebral infarct was 15.5%. Harandou et al reported 15.78% incidence of cerebral infarct in accordance to present study.¹⁴ 2 cases of cerebral thrombosis and 3 cases of superior sagittal sinus thrombosis were reported in present study. Similar observation was made by Bharathi et al.⁹ Zhu et al reported cerebral edema as common finding There were no cases of maternal mortality due to postpartum eclampsia in the study period.¹⁵

CONCLUSION

Grass root level identification and early initiation of treatment in antenatal cases of severe preeclampsia is the key. Ensuring adequate intensive monitoring in early postpartum period for initial 3 days following delivery is of utmost importance. Adopting neuroimaging technology for cases of postpartum eclampsia has greatly helped to treat conditions like cerebral edema, CVT PRES. It is extremely heartening to see such patients completely recovered after obstetric intensive care unit management.

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