IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)
e-ISSN: 2279-0853, p-ISSN: 2279-0861.Volume 19, Issue 6 Ser.8 (June. 2020), PP 10-13
www.iosrjournals.org

A Retrospective Observational Study of Postpartum Eclampsia in a Tertiary Care Hospital

Dr.Nikita Chauhan[1*], Dr.Sweta Lal[2], Dr.Manjula Srivastava[3]
[1*]*Senior Resident, Department of Obstetrics and Gynaecology, Hazaribagh Medical College, Hazaribagh, Jharkhand.*
[2]*Assistant Professor, Departmentof Obstetrics and Gynaecology, Hazaribagh Medical College, Hazaribagh, Jharkhand.*
[3]*Associate Professor, Departmentof Obstetrics and Gynaecology, Hazaribagh Medical College, Hazaribagh, Jharkhand.*
Corresponding Author: Dr.Nikita Chauhan

Abstract
Introduction: *Eclampsia, which is considered a complication of severe preeclampsia, is commonly defined as new onset of grand mal seizure activity and/or unexplained coma during pregnancy or postpartum in a woman with signs or symptoms of preeclampsia.In the fifth century, Hippocrates noted that headaches, convulsions, and drowsiness were ominous signsassociated with pregnancy. In 1619, Varandaeus coined the termeclampsiain a treatise on gynecology.In the western world, the reported incidence of eclampsia is 1 in 2000 but in developing countries its incidence may be as high as 100 cases per 10,000 live birth.*
Materials and Methods: *This is Retrospective study of all postpartum eclampsia patients admitted between January 2019 to December 2019 in the Departmentof Obstetrics and Gynaecology, Hazaribagh Medical College, Hazaribagh, Jharkhand. All patients admitted with postpartum eclampsia in eclampsia unit of HMCH, Hazaribaghwereincludedin thestudy.All postpartum eclampsia women were admitted in eclampsia room of Eden building during the study period.*
Results: *During the study period for 8456 deliveries 65 cases were admitted with postpartum eclampsia. So the incidencewas 0.7%. Postpartum eclampsia was more common in the age group of 21-25 (52%). Most of the postpartumeclampsia occurred in primipara (51%). Only 4.6% (3) of patients had prior AP eclampsia and 20% (13) hadpreeclampsia prior to postpartum eclampsia. Regarding the mode of delivery majority of patients had vaginaldelivery 41 (63%). 6 cases (9%) of postpartum eclampsia delivered in our institutions whereas, 59 cases (91%)were delivered in other institutions and referred here as postpartum eclampsia. 6% were referred from PrimaryHealth Centre, 80% were referred from Government Hospitals, 13% from other private hospitals. 16 (24.6%)patients had seizures in less than 48 hours.*
Conclusion: *Postpartum eclampsia is still on the most commonobstetric emergency which has a significant role inmaternal mortality. Excellent antenatal care in our part ofthe county has resulted in shift of eclampsia towards thepostpartum period. Hence regular antenatal care alone isnot enough, they also need to regular postnatal follow upcare throughout puerperium.*
Key words: *Eclampsia, maternal mortality, puerperium, seizures.*

Date of Submission: 26-05-2020 Date of Acceptance: 13-06-2020

I. Introduction

Eclampsia, which is considered a complication of severe preeclampsia, is commonly defined as new onset of grand mal seizure activity and/or unexplained coma during pregnancy or postpartum in a woman with signs or symptoms of preeclampsia.[1]In the fifth century, Hippocrates noted that headaches, convulsions, and drowsiness were ominous signsassociated with pregnancy. In 1619, Varandaeus coined the termeclampsiain a treatise on gynecology.In the western world, the reported incidence of eclampsia is 1 in 2000 but in developing countries its incidence may be as high as 100 cases per 10,000 live birth.[2]

Pre-eclampsia is estimated to affect about 3-8% of deliveries while eclampsia affects about 1.4% of deliveries.Based on initial results of WHO's Department of Reproductive Health and Research; the incidence of pre-eclampsia is estimated at 3.2% of live births, giving a total number of over 4 million cases each year, of which over 72,000 were fatal.[3]In India, the incidence of Eclampsia is reported to be 220/10,000 deliveries.Incidence of eclampsia varies inversely with the quality of antenatal care. It is estimated that about 10-15% of maternal mortality is associated with hypertensive disorders of pregnancy; particularly

eclampsia.Hypertensive disorders of pregnancy are one of the most common causes of death in pregnancy.They resulted in 46,900 deaths in 2015.Around one percent of women with eclampsia die.[4]

Eclampsia is a life-threateningemergency that contributes a major cause of maternal morbidity and mortality.[5] Traditionally it has been classified as ante, intra and postpartum according to time of appearance of convulsion and/or coma. Most cases of postpartum preeclampsia develop within 48hours of childbirth is termed as early post-partumeclampsia. However, postpartum preeclampsia sometimes develops up to six weeks after childbirth. This is known as late postpartum preeclampsia.

II. Materials And Methods

This is retrospective study of all postpartum eclampsia patients admitted between January 2019 to December 2019 in the Departmentof Obstetrics and Gynaecology, Hazaribagh Medical College, Hazaribagh, Jharkhand.

All patients admitted with postpartum eclampsia in eclampsia unit of Hazaribagh Medical Collegeand Hospital wereincludedin thestudy.All postpartum eclampsia women were admitted in eclampsia room of Eden building during the study period. The following were the exclusion criteria for this study-

- Mothers with known neurological disease like epilepsy, meningitis, meningoencephalitisand other convulsive disorders.
- Known cases of any neurological space occupying lesions.
- Mothers who had preceding antenatal eclampsia. A purposive sampling was done.

All the required data were collected from MRD. The following
epidemiological factors were observed like age, parity, pre-existing hypertension (or) eclampsia, mode of delivery, recurrence of seizure and maternal outcome.

III. Results

During the study period for 8456 deliveries 65 cases were admitted with postpartum eclampsia. So the incidence was 0.7%. Postpartum eclampsia was more common in the age group of 21-25 (52%). Most of the postpartumeclampsia occurred in primi para (51%). Only 4.6% (3) of patients had prior AP eclampsia and 20% (13) hadpreeclampsia prior to postpartum eclampsia. Regarding the mode of delivery majority of patients had vaginaldelivery 41 (63%). 6 cases (9%) of postpartum eclampsia delivered in our institutions whereas, 59 cases (91%)were delivered in other institutions and referred here as postpartum eclampsia. 6% were referred from PrimaryHealth Centre, 80% were referred from Government Hospitals, 13% from other private hospitals. 16 (24.6%)patients had seizures in less than 48 hours. 20 (30.7%) patients had seizures between 48 hours to 7 days. 16(24.6%) patients had seizures between 8 to 14 days and 13 cases (20%) had seizures after 14 days. 84.6% ofpatients belong to rural areas. 18 cases (27.6%) had headache prior to seizures. 14 cases (21.5%) had vomiting prior to seizures. Although all patients received MgSO4, the recurrent rate of seizures was 4.6%. None of the patients developed MgSO4 toxicity. Cases who were diagnosed to have CVT were put on phenytoin, antiedema measures and anticoagulants.

S.No	Age in Years	Percentage
1	**<20**	**20%**
2	**21-25**	**52%**
3	**26-30**	**25%**
4	**30-35**	**3%**

Table 1: Age Distribution

S.No	Parity	Percentage
1	**Para 1**	**50.7%**
2	**Para 2**	**32.3%**
3	**Para 3**	**15.5%**
4	**Para 4**	**1.5%**

Table 2: Parity

S.No	Habitat	Percentage
1	**Urban**	**15.3%**
2	**Rural**	**84.7%**

Table 3: Habitat

S.No	Route of delivery	Percentage
1	**Vaginal**	**63%**
2	**LSCS**	**37%**

Table 4: Mode of delivery

S.No	Referral	Percentage
1	**PHC**	**6.7%**
2	**GH**	**80%**
3	**Private Hospitals**	**13.3%**

Table 5: Referral

S.No	Occurrence of Seizure	Timing	Percentage
1	Less than 48 Hours (24%)	<12 hours	12%
2		12-24 hours	6%
3		24-48 hours	6%
4	48 hours-7 days		30.7%
5	8-14 days		24.6%
6	>14 days		20%

Table 6: Timing of Seizures

IV. Discussion

During our study period 59.4% cases had Antepartum eclampsia among total eclampsia cases which had a similar observation in a study done by Hemkanta et al. Recent years have shown an increased in the incidence of postpartum eclampsia probably due to better prenatal care and prophylactic use of MgSO4 in severe preeclampsia, AP eclampsia and IP eclampsia.[6] In a study by Chames etal, who found with improvement in antenatal care, early deduction of preeclampsia and prophylactic use of MgSO4, there has been increasing shift in the incidence of eclampsia towards the postpartum period. Sibai et al reported 18.25% postpartum eclampsia cases whereas in our study we had 35% postpartum eclampsia. This 35% of postpartum eclampsia is comparable to study done by S. K. Rath et al and Chames et al.[7]

The incidence of postpartum eclampsia 0.9 per 1000 maternities in our study whereas in the study done by Kayem et al the incidence was very low (0.1 per 1000 maternities).[8]

Among the women with postpartum eclampsia 12% (n=8) of women had seizures <12 hours following delivery, whereas in study done by Kayem et al it is very high as high as 70%.[9] Most of the women had seizures 48 hours after delivery (75.4%) which is comparable with the study done by Chames et al in which the incidence is 79%. 20% of patients were previously diagnosed to have preeclampsia in our study which is comparable to the study done by Chames et al.[10] In our study 27.6% had headache and 21.5% had vomiting prior to seizure whereas in the study done by Chames et al the incidence of prodromal symptoms were very high. The percentage of CVT is 10% which is also very high when compared to the study done by Runjun Doley et al. The maternal mortality was 6 (10.7%) out of 56 deaths that occurred in that year.10 Out of the 6 deaths, 1 had normal CT/MR and rest of them had CVT.[11]

V. Conclusion

Currently because of the assess to Antenatal care has improved,the overt cases of preeclampsia are identified early andtreated. This could be the reason for the decrease in Antepartum eclampsia and the rising trend in postpartum eclampsia.Conventionally it is said that postpartum eclampsiausually occurs in <48 hours. But it is proved beyonddoubt that it is not so, as seen in our study that timing ofseizures ranges throughout the puerperal period. In ourstudy there was 1 patient who had seizures at 32ndpostpartum day. Vigilance and intense surveillanceduring postpartum period has to be done to reducepostpartum eclampsia. Health educations regarding theprodromal warning symptoms have to be stressed upon toall postpartum women and peripheral health careproviders. In our part of the society drinking water in thepostnatal period considered as a taboo, so many womenconsume very little water which may also be acontributing factor leading to an increase in postpartumeclampsia. Regarding this health education should begiven to all women during the antenatal period itself.Postpartum eclampsia is still on the most commonobstetric emergency which has a significant role inmaternal mortality. Excellent antenatal care in our part ofthe county has resulted in shift of eclampsia towards thepostpartum period. Hence regular antenatal care alone isnot enough, they also need to regular postnatal follow upcare throughout puerperium.

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Dr.Nikita Chauhan, et. al. "A Retrospective Observational Study of Postpartum Eclampsia in a Tertiary Care Hospital." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 19(6), 2020, pp. 10-13.