Original Research Article

Study of eclampsia: A retrospective analysis

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Abstract

Background: Eclampsia is a fatal disorder among pregnant women. Throughout the world, eclampsia remains an important cause of maternal mortality, accounting about 50,000 deaths worldwide. Preeclampsia and eclampsia occur much more commonly in nullipara and appear typically with minimal or no warning. Unfortunately, preeclampsia is not preventable, nor is its onset accurately predictable. **Material and Methods:** A retrospective observational study was carried out in the Patane Hospital Aurangabad [MS], India from January 2012 to December 2016. All cases of eclampsia diagnosed during that period were included in the study. For analysis of this data SPSS (Statistical Software for social Sciences) software version 20th was used. Qualitative was represented in form values and percentages. **Results:** Total number of deliveries was 1526 and the number of eclampsia patients during the same period was 94 giving an incidence of 6.17%. The incidence of age ≤ 20 years 20 years cases were having 7.36% which was comparatively more than above 20 years of age. Those who were at ≥37 weeks of gestation constituted 12 (12.76%). Maximum 69 (73.40%) cases were antepartum eclampsia, 3 (3.19%) were intrapartum eclampsia and 22 (23.40%) cases were postpartum eclampsia. There were no maternal deaths in our study duration of eclampsia.
Key Words: Enclampsia, Pregnancy induced Hypertension, Disorder in pregnant women.

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INTRODUCTION

Eclampsia is a still prevalent in India with high among pregnant women. Throughout the world, eclampsia remains an important cause of Maternal and paternal mortality and morbidity accounting about 50,000 deaths worldwide[1]. The maternal mortality rate due to eclampsia varies worldwide from 18% in U.K up to 43.1% in Nigeria. Morbidity from eclampsia is associated with acute renal failure, pulmonary edema, cardiopulmonary arrest and aspiration. Perinatal morbidity from eclampsia ranges from 5%-11.8% in developed countries to 40% in developing countries[2]. Incidence of maternal mortality due to eclampsia has decreased in the past three decades from 5% to 10% to less than 3% of cases[3]. In developed countries, eclampsia complicates about 1 in 2000 deliveries[4], but in developing countries, the prevalence varies widely, from 1 in 100 to 1 in 1700[5,6]. Preeclampsia and eclampsia occur much more commonly in nulliparas and appear typically with minimal or no warning. Unfortunately, preeclampsia is not preventable, nor is its onset accurately predictable[7]. The diagnosis of eclampsia is usually clear when women present with seizures and /or unexplained coma, hypertension and proteinuria. In approximaterly 15% of the cases hypertension and protein urea are not present[8]. The aetiology of eclampsia has not yet been established and there are controversies surrounding the definition of atypical presentation of eclampsia. In most cases, the onset of pre-eclampsia is insidious and the pathological changes occur a week before the clinically detectable hypertension and proteinuria. In addition, the symptoms occur only at the end stage of the disease, just before the eclamptic episode. Hence proper antenatal care with regular measurement of blood pressure, screening for proteinuria,

enhanced community awareness of danger signs, early recognition of risk factors and better management of prodromal symptoms of eclampsia can reduce the morbidity due to eclampsia. A retrospective study of eclampsia cases was carried out to evaluate the incidence of eclampsia, demographic characteristics, clinical profile and maternal and perinatal morbidity/mortality associated with it in our hospital setting. This study aims to assist in planning interventions that will reduce the incidence, morbidity and mortality associated with eclampsia.

MATERIALS AND METHODS

A retrospective observational study was carried out in the Patane Hospital Aurangabad [MS], India from January 2012 to December 2016. All cases of eclampsia diagnosed during that period were included in the study. All cases were registered to National Eclampsia Registry.

Period of Study: The study was conducted during 2012 to December 2016.

Study Population: The population for this study includes all pregnant women Patne Hospital Aurangabad [MS].

Sampling Technique: Purposive sampling technique is used for this study

Sampling Size patients were studied.

Study design: Retrospective observational study.

Inclusion Criteria:

- Antenatal cases of all age-group.

Method of developing the Study Tool: The following steps were carried out in developing the instrument.

- Review of related literature.
- Discussion with experts of Subjects.

Tool Used:

- A structured Proforma used to collect Demographic profile, clinical profile, BP, Type of eclampsia, Birth outcome etc.

Statistical Analysis: The collected data was compiled in EXCEL sheet and Master sheet was prepared. For analysis of this data SPSS (Statistical Software for social Sciences) software version 20th was used. Qualitative was represented in form values and percentages.

Operational definitions: Eclampsia is defined as occurrence of convulsion in a patient with pre-eclampsia with no coincidental neurological disease. The diagnosis of pre-eclampsia is based mainly on the presence of hypertension (BP 140/90 mm of Hg) after 20 wks of gestation and proteinurea (300 mg/24 hr or 1+ dipstick)[9].

Irregular antenatal care: Less than 4 antenatal check-up by an authorized service provider.

No antenatal care: Total absence of antenatal check-up or irregular check-up by an unauthorized person. Authorized service provider was defined as a person who had skills to do proper antenatal check-up and necessary training to impart awareness. ANMs, GNMs and Doctors were considered authorized service provider.

Socio-economic status: Kuppuswamy's Socio-economic scale (2012) was used in present study. Kuppuswamy's scale considers monthly income, education status and occupation for calculation of socio-economic status. Socio-economic class was defined on basis of scores of scale; Upper (26-29), Upper Middle (16-25), Lower Middle (11-15), Upper Lower (5-10) and Lower (<5).

OBSERVATIONS AND RESULTS

This study was carried out in Patne Hospital Aurangabad over a period of four year. Total number of deliveries was 1526 and the number of eclampsia patients during the same period was 94 giving an incidence of 6.17%.

Table 1: Incidence of eclampsia in women

Age-Group	Total no of Studied cases	No. of cases with eclampsia	Prevalence
≤ 20 years	774	57	7.36%
>20 years	752	38	5.05%
Overall	1526	94	6.17%

The incidence of age ≤ 20 years 20 years cases were having 7.36% which was comparatively more than above 20 years of age.

Table 2: Distribution of eclampsia cases according to demographic profile

Particular		No. of cases	Percentage
Religion	Hindu	68	72.34%
	Muslim	17	18.08%
	Other	09	09.57%
Locality	Rural	89	94.68%
	Urban	05	5.32%
Socioeconomic Status	Upper class	00	00
	Upper middle class	00	00
	Lower middle class	01	1.06%
	Upper lower class	12	12.76%
	Lower class	81	86.17%
Booking status	Booked	00	00
	Unbooked	94	100%
Parity	Primigravidae	67	71.28%
	Multigravidae	27	28.72%

In present study Maximum cases i.e. 68 (72.34%) were Hindu, 17 (18.08%) of Muslim and 09 (9.57%) cases of other category. Maximum cases i.e. 89 (94.68%) were rural and 05 (5.32%) were urban. In this series, most of the cases 81 (86.17%) had come from the low socio-economic status. In present study booking status 94 (100%) cases were unbooked. Most of the cases 67 (71.28%) were primigravidae and 27 (28.72%) cases of multigravidae.

Table 3: Type of eclampsia

Type of eclampsia	No. of cases	Percentage
Antepartum	69	73.40%
Intrapartum	03	3.19%
Postpartum	22	23.40%
Total	**94**	**100%**

Out of 94 cases, 69 (73.40%) cases were antepartum eclampsia, 3(3.19%) were intrapartum eclampsia and 22 (23.40%) cases were postpartum eclampsia.

Table 4: Gestational Period

Gestational Period	No. of cases	Percentage
≤ 28 week	11	11.70%
29- 36 week	71	75.53%
≥37 week	12	12.76%
Total	**94**	**100%**

It was observed that 11 (11.70%) cases presented at gestational age of ≤ 28 weeks, while 71 (75.53%) had gestational age of 29-36 weeks. Those who were at ≥37 weeks of gestation constituted 12 (12.76%).

Table 5: Number of convulsions before start of anticonvulsant therapy

No of convulsions	No. of cases	Percentage
1	06	06.38%
2—4	83	88.29%
>4	05	5.32%
Total	**94**	**100%**

Maximum cases i.e. 83 (88.29%) were having convulsions before start of anticonvulsant therapy between 2--4.

Table 6: Mode of delivery

Mode of delivery	No. of cases	Percentage
Vaginal delivery	33	35.11%
Lower segment caesarean section	61	64.89%
Total	**94**	**100%**

Lower segment caesarean section i.e. 61(64.89%) was the most common mode of delivery followed by Vaginal delivery i.e.33 (35.11%).

Table 7: Maternal complications

	No. of cases	Percentage
Required ventilation	00	00
Pulmonary edema	00	00
HELLP syndrome	03	3.19%
Acute Hemolytic Uremic Syndrome	01	1.06%
Abruption placentae	03	3.19%
Post-partum haemorrhage	00	00
Press Syndrome	01	1.06%
Intercranial Bleed	01	1.06%
Maternal death	00	00

Most comman complication in present study was HELLP syndrome 03 (3.19%) and Abruption placentae 3 (3.19%). Also in one case Acute Hemolytic Uremic Syndrome, Press Syndrome and Intercranial Bleed were observed the complications for which patients required prolong hospital stay. No Maternal deaths noted from Eclampsia in present study.

Table 8: Perinatal outcome

Perinatal outcome	No. of cases	Percentage
IUD	04	4.25%
Neonatal Mortality	00	00
Perinatal Mortality	00	00

In present study no maternal mortality was not noted in Eclampsia cases and perinatal outcome was good. Whereas 4(4.25%) cases were having IUD.

DISCUSSION

The incidence of Eclampsia in our study was 6.17%. Most studies have reported an incidence between 1-2%[2,10]. Adamu *et al* reported a higher incidence of 4.4%[11]. Whereas the incidence of Eclampsia in Eastern India is 3.2%. In Kerla is 3.8%, 4.9% in Andra Pradesh, 15% in Madya Pradesh and 20.7% in Bihar[12]. These figures are higher compare to developed countries with the incidence of 1 in 3250 pregnancies in US[13]. In present study most of the Eclampsia cases were refereed form rural area and cases found to be unbooked for ANC. In this series, most of the women (86.4%) had come from the low socio-economic status. In the present study all of the cases were unbooked. Most studies have reported that maximum cases were unbooked[2,10]. In present study eclampsia was common in young nullipara woman, also the same findings were noted by Pradeep M. R [15] and Chaurvedi *et al*[16]. The present study shows that antepartum eclampsia is the commonest (73.4%). Similar findings were noted by Raji C., *et al*[17] who reported that, Most of the cases 101 (69.2%) were primigravidae. Other studies also reported the same Eclampsia was a disease of primigravida majority of women 67% in found by study were primigravida which is comparable to study. It was observed that majority of 71 (75.53%) cases had gestational age of 29-36 weeks. Those who were at ≥37 weeks of gestation constituted 12 (12.76%). Present study finding contradicted with Lavanya S. *et al*[14] shows that majority (45.23%) of the eclamptic patients had gestational age at delivery between 36 -40 weeks. Lower segment caesarean section (64.89%) was the most common mode of delivery followed by Vaginal delivery where as Pradeep M. R[15] found that vaginal delivery was major mode of delivery. Recurrence convulsion was almost nill that helped for good maternal and perinatal outcome all cases were delivered within 4-6 Hours of admission. There were no maternal deaths in our 4 years duration of study from eclampsia. Whereas Miguil *et al*[18] and Akinola *et al*[19] reported a higher maternal mortality rate of 6.7% and the major causes for maternal mortality were multi-system organ failure, pulmonary edema, Acute renal failure, stroke, DIC precipitated by abruption. Most common maternal complication in present study was HELLP syndrome 03 (3.19%) and Abruption

placentae 3(3.19%). whereas Pradeep M. R[15] reported most comman complication was post partum Pyrexia (12%).

CONCLUSION

Still in Rural area of India, the high incidence of eclampsia is present. Incidence of eclampsia is same over the decades. It can be reduced by proper antenatal care, diagnosing, admitting and treating the mild and severe pre- eclampsia cases. To decrease mortality of enclampsia the comprehensive antenatal care, early detection of pre eclampsia, and Doctors working in peripheral hospitals and midwives should have periodic training in management of pre-eclampsia and eclampsia. Government should be adapted a uniform national health care policy for a proper Antenatal care.

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