Original Article

Maternal and Perinatal Outcome in Patient with Eclampsia Attending Isra University Hospital Hyderabad

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Abstract

Objective: To determine maternal and perinatal outcomes in patient with Eclampsia at tertiary care Hospital.
Methodology: This descriptive observational study was held at Gynae and obstetrics department at Isra University Hospital, Hyderabad. Study duration was one years from April 2016 to March 2017. Patients presenting with Antepartum and Intrapartum Eclampsia at Isra university hospital, Hyderabad were included. Clinical examination along with history of their mode of delivery either as Intrapartum were done by spontaneous vaginal delivery. Maternal outcome was assessed in term of morbidity and mortality. Fetal outcome assessed in term of Apgar score at birth and weight of babies. All the data was recorded on predesigned proforma.
Results: Mean age of these subjects was 25-28 years. Most of the females 72.0% were un-booked. Most of the women 75.0% were found with Antepartum Eclampsia and 25.0% had Intrapartum Eclampsia. Majority of the women 68.0% underwent cesarean section. As per maternal outcome placental abruption was 10.0%, renal impairment 8.0%, pulmonary edema 9.0%, blurring of vision 6.0%, help syndrome 5.0%, cardiac arrest 1.0% and cardiomyopathy 1.0%, while one female was died due to cardiac arrest during the study period. According to perinatal outcome intrauterine death was found 20.0%, 6.0% cases were still born, while ENND was found in 30.0% of the cases, 43.0% babies were found with Apgar score of 5-7, 30.0% had <5 Apgar score and 27.0% neonates were found with Apgar score of 8-10.
Conclusion: Eclampsia found to be a most important risk to adverse feto-maternal outcome. The implementation of health policies is essential to give better antenatal care with further orientation regarding significance of early detections of cases with raised blood pressure in the course of pregnancy to prevent complications.
Keywords: Eclampsia, maternal outcome, fetal outcome

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Introduction

Eclampsia is the commonest causative factor of neo-maternal mortality as well as morbidity throughout the world.[1] Eclampsia is described as the fits occurring in the pregnancy with upto 10 days postpartum or at delivery, not caused by the coincidental neurological disease (I,e. Epilepsy) in a female who fulfill the Pre-eclamptic criteria.[2] Eclampsia is a uniquely pregnancy-related disorder that manifests as new onset of generalized tonic colonic seizures. It typically occurs after 20 weeks of concluded gestation, although it may occur sooner with plural gestations or molar pregnancies, and may additionally occur in the 6-week postpartum window. It represents the severe end of the Pre-eclampsia spectrum.[3] It represents 12% maternal mortality world around.[4] Some have suggested hypertension resulting in collapse of autoregulatory mechanisms in cerebral circulation inducing endothelial dysfunction that concludes in cytotoxic edema and expression of a generalized seizure. Inflammation of the cerebrum appears to contribute in pathophysiology. In some scenarios, it can possibly be correlated with PRES due to posterior circulation's inability to autoregulate itself in response to acute hypertension.[3] Prevalence of Eclampsia within developed nations is 10 in 20000 to 30000 deliveries.[5] Whereas within Pakistan 120 per 10,000 deliveries.[6] It is projected that maternal mortality upto nearly 7% is correlated with hypertensive diseases of pregnancy, predominantly Eclampsia. Perinatal outcomes in

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Eclampsia depends upon several predisposed risk factors such as pregnancy induced hypertensions, number of convulsions, protein urea, gestational age as well as severity Eclampsia . Pregnancies of this type have raised risk for kidney failure, abruption placenta, consumption coagulopathy, brain & lung edemas, hepatic haematom and hypovolemic shock.[8] Hypertensive diseases in pregnancy were rated as 3rd level vital factor of maternal mortalities within a National review in Pakistan.[9,10] Eclampsia & Pre-eclampsia continue to be a key factor of neonatal, fetal, and maternal morbidity & mortality, playing a vital role in health care economic burden. It is occasionally treated by pregnancy termination following wide counseling as the disorder not just influences pregnancy outcome, however as well influences child & mother to longstanding health complications for instance CVD.[11] As incidence of eclampsia in developed as well as in developing countries is very high and it increases the maternal and perinatal morbidity and mortality. However this study has been conducted to assess the maternal and perinatal outcomes in patient with Eclampsia at tertiary care Hospital

Methodology

This descriptive observational study was accomplished at Obs & Gynea department, Isra University Hospital, Hyderabad. Study duration was one years from April 2016 to March 2017. Pregnant women presenting with antepartum and intrapartum Eclampsia were excluded. Women with other medical disorders, postpartum Eclampsia, neurological disorder (e.g epilepsy), fits due to hypokalemia and hypoglycemia were excluded. Written informed consent was taken. Complete history including booking status, age, parity, gestational age, history of current pregnancy and history of antenatal checkups and treatment history was asked. It was also noted that they developed Eclampsia in antepartum or Intrapartum period. Clinical examination along with history of their mode of delivery either as I/S Intrapartum are by SVD. Maternal outcome was assessed in term of alive, morbidity and mortality. Fetal outcome assessed in term of Apgar score at the time of birth and weight of babies. All the data was collected by predesigned proforma. The data analysis was done via version 21.0 of SPSS .Continuous variable were presented in the form of mean and standard deviation. Categorical variables were presented in the form of frequency & percentage. X^2-test was employed and association was deemed significant for a P-value of up to <0.05.

Results

Total 100 women were studied; their mean age was 25.0±5.28 years. Most of the Patient 75(75.0%) had antepartum Eclampsia, only 75(25.0%) presented with Intrapartum Eclampsia. Patients demographic characteristics as age groups, parity, occupational status, booking status, gestational age and mode of delivery are presented in **TABLE-1:**

TABLE 1: Women distribution according demographic characteristics and types of eclampsia (n=100)

		Frequency	Percent
Age groups	16-25 years	36	36.0
	26-35 years	S60	60.0
	>35 years	4	4.0
Parity	primigravidas	72	72.0
	Primipara	20	20.0
	Multipara	8	8.0
Occupation	Housewife	98	98.0
	Working women	2	2.0
Booking status	Booked	28	28.0
	Un-booked	72	72.0
Gestational age	28-32 weeks	33	33.0
	33-36 weeks	64	64.0
	37-40 weeks	03	03.0
Eclampsia	Antepartum	75	75.0
	Intrapartum	25	25.0
Mode of delivery	Normal	30	30.0
	C- section	68	68.0
	Instrumental	02	02.0

According to the maternal outcome among 40.0% patient complications developed like placental abruption 10.0%, renal impairment 8.0%, pulmonary edema 9.0%, blurring of vision 6.0%, help syndrome 5.0%, cardiac arrest 1.0% and cardiomyopathy 1.0% and only one woman was died due to cardiac arrest. According to the perinatal outcome intrauterine death was observed 20.0%, still birth 6.0%, while 30(30.0%) died in early neonatal period due to infant respiratory distress syndrome, preterm infants and birth defects. **TABLE: 2**

TABLE 2: Women distribution according to maternal and perinatal outcome n=100

Variables		Frequency	Percent
Maternal outcome	Alive	59	59.0
	Morbidity	40	40.0
	Mortality	01	01.0
	Total	100	100.0
Neonatal outcome	Alive	44	44.0
	IUD	20	20.0
	Stillbirth	06	06.0
	ENND	30	30.0
	Total	100	100.0

Maternal outcome was found to be statistically insignificant according to booking status, type of eclampsia and mode of delivery (p=>0.05). **TABLE.3**

TABLE 3: Maternal outcome according to booking status, antepartum, Intrapartum, gestational age and mode of delivery (n=100)

Variables	Maternal Outcome			Total	p-value
	Alive	Morbidity	Mortality		
Booking status					
Booked	19	8	1	28	0.113
Un -booked	40	32	0	72	
Antepartum					
Yes	45	29	1	75	0.772
No	14	11	0	25	
Intrapartum					
Yes	14	11	0	25	
No	45	29	1	75	0.772
Gestational age					
28-32 weeks	18	15	0	33	
32-36 weeks	38	25	1	64	0.005
37-40 weeks	3	0	0	3	
Mode of delivery					
NVD	19	11	0	30	
Caesarean section	38	29	1	68	
Instrumental	2	0	0	2	0.690
Total	59	40	1	100	

Discussion

Eclampsia is the most important obstetric causes of maternal and perinatal mortality in the western world. In this study patients mean age was 25.0±5.28 years. Consistently Shahzad N et al,[72] reported that the mean age of patients was 25.17+4.9 years. Rani SS et al.[73] also stated that 78.8% cases belonged to 20-25 years of age. Raji C et al[74] also reported that the maximum number of cases 115 (78.8%) were in the age group between 20-25 years. In this study almost women were multipara 94.0%, nullipara women were 5.0%, while primipara women was only one. In the favor of this study Rajani M et al[75] 45.9% multi gravidas, 41.6% of them were primigravidas and 12.45% were grandmulti . While inconsistently Nessaα K et al[76] stated that majority (60%) were nulliparous, while 40% were multiparous. In the present study un-booked women were most common 72.0%, out of total 100 women, while booked women were only 28.0%. In the favour of our findings Raji C et al[74] mentioned that the booking status showed 100 (68.49%) cases were un-booked and the remaining 46 (31.51%) cases were booked. On other hand Pradeep et al[77] and Chaudhury et al[78] reported similar results. In this study most of the women 68.0% were underwent caesarean section due to the seriousness of the condition, and in most cases, there would be delayed presentation; hence no further time would be available to consider vaginal delivery, 30.0% women were delivered by normal vaginal delivery, while only 2.0% women were underwent instrumental delivery. Similarly Ngwenya S et al[80] reported that most of the patients were delivered by cesarean section (78.5%). In present series' most of the women 75.0% were found with antepartum eclampsia and 25.0% women were presented with Intrapartum eclampsia. Similarly Raji C et al[74] studied 146 eclampsia cases, Among them 113 (77.4%) cases were antepartum eclampsia, 4 (2.7%) were intrapartum eclampsia and 29 (19.9%) cases were postpartum eclampsia. In another study of Sibai BM et al[79] stated that the onset of eclamptic convulsions can be antepartum (38-53%), intrapartum (18-36%), or postpartum (11-44%). While from our study postpartum eclamptic women were excluded.

In this study maternal complications were found in 40.0% of the women and only one woman was died. Consistently Ngwenya S et al[80] reported that maternal mortality was 1.7%. While in the study of Nessaα K et al[76] reported that maternal mortality rate was 8.57%, and in other international studies maternal mortality rate was higher as 7.9%, 8% and 9% respectively from Tanzania, India and Ibadan, Nigeria.[81,82] While on other hand no maternal deaths were reported in similar studies in rich-resourced countries such as Kuwait and UK.[83,84]

In this study according to the perinatal outcome 44 babies were alive normally; intrauterine death was found in 20.0% of the cases, still birth in 6.0% cases while ENND was found in 30.0% of the cases. While Manish Kumar et al reported that 34.4% of cases, out of the overall live births ended up in NND, these findings are higher as compare to our study[85]. On other hand Rajani M et al reported that 30.6% underwent IUD and at birth just 69.5% were alive out of which 34.4 % ended up in NND. On other hand Nessaα K et al reported that after meticulous treatment 18(51.42%) patients improved in Eclampsia ward, while 14 (40%) patients needed ICU support and 3(8.57%) died. In a study in Eclampsia Shahzad N et al, reported that stillbirths cases were 20%, out of them preterm cases were 17(17%) and full term babies were 3(3%)[72,76,75].In this series according to the distribution of Apgar score, Apgar score in 43.0% babies was recorded 5-7, score <5 was found in 30.0% cases and 8-10 of Apgar score was found among 27.0% neonates. In contrast, in the findings of Shahzad N et al, 60% babies had an APGAR score at birth below 4 at 5 minutes following delivery. A score from 4 to 7 was recorded among 20% babies at birth and APGAR score of 4-7 was recorded among 63% babies at 5 minutes following birth and just 4% of cases had an APGAR score above 7 at 5 minutes following birth[72].

Conclusion

Eclampsia found to be a most important risk to adverse feto-maternal outcome. Health initiatives should be introduced to provide improved antenatal services with far more emphasis on the significance of prompt detection of high blood pressure incidents throughout pregnancy to prevent complications from developing. Better health professionals training and education is essential in order to enhance vital patient care. The availability of antihypertensive parental therapy as well as the development of neonatal facilities can lower the rate of neo-maternal complications. More studies are suggested to determine the effect of method of delivery on neo-maternal outcomes in severe eclampsia and preeclampsia

References

1. Ghulmiyyah L, Sibai B. Maternal mortality from Pre-eclampsia /Eclampsia . InSeminars in perinatology 2012 Feb 29 (Vol. 36, No. 1, pp. 56-59).
2. Nahar K, Laila TR, Akhter N, Shamsunnahar PA, Khatun K, Chowdhury SB. Management of Hypertensive Disorders in Pregnancy-An Update. Bangladesh Journal of Obstetrics & Gynaecology. 2013 Feb 10;25(1):24-32.
3. Girardi G. Pravastatin to treat and prevent Pre-eclampsia . Preclinical and clinical studies. J. Reprod. Immunol. 2017 Nov;124:15-20.
4. World Health Organization. The World health report: 2005: make every mother and child count: overview.
5. Wagner SJ, Acquah LA, Lindell EP, Craici IM, Wingo MT, Rose CH et al. Posterior reversible encephalopathy syndrome and Eclampsia: pressing the case for more aggressive blood pressure control. InMayo Clinic Proceedings 2011;30; 86;9; 851-856.
6. Yaqub S, Zafar B, Tahir K. Management of Eclampsia . International Journal of Pharmaceutical Science and Technology. 2011;3(1):528-35.
7. Naib JM, Siddiqui MI, Ajmal W. Maternal and perinatal outcome in Eclampsia, a one year study. Journal of Postgraduate Medical Institute (Peshawar-Pakistan). 2011 May 10;18(3).
8. World Health Organization. The WHO application of ICD-10 to deaths during pregnancy, childbirth and puerperium: ICD-MM. World Health Organization; 2012.
9. Iklaki CU, Inaku JU, Ekabua JE, Ekanem EI, Udo AE. Perinatal outcome in unbooked teenage pregnancies in the University of Calabar Teaching Hospital, Calabar, Nigeria. ISRN obstetrics and gynecology. 2012 Mar 4;2012.
10. Jamil SN, Akhtar S. Maternal outcome in Eclampsia . J Med Sci. 2005 Jul;13(2):161-4.
11. SHAHZAD N, YAQOOB U, HANIF A. Feto Maternal Outcome in Patients with Eclampsia at a Tertiary Care Hospital.
12. Rani SS,74 Anshu D, Nanda S. Maternal and PerinatalOutcome in Severe Pre-eclampsia and Eclampsia . JSAFOG (South Asian Federation of Obstetrics andGynecology), September-December 2009;1(3):25-8.
13. Raji C, Poovathi M, Nithya D. Prospective study of fetomaternal outcome in Eclampsia in a tertiary care hospital. International Journal of Reproduction, Contraception, Obstetrics and Gynecology. 2016 Dec 7;5(12):4329-34.
14. Rajani M, Smitha Sreenivas K. Expectant management of early onset severe pre Eclampsia : fetomaternal outcome: a study in a tertiary institution in north Kerala. JEMDS. 2015 May 25;4(42):7387-95.
15. Nessaα K. Incidence and Fetomaternal Outcome of Eclampsia in a Tertiary Medical College Hospital in Bangladesh. Global Journal of Medical Research. 2017; 9.
16. Pradeep MR, Shivanna L. Retrospective Study of Eclampsia in a Teaching Hospital. Int J Recent Trends in Science and Technology. 2013;8(3):171-3.
17. Choudhary P. Eclampsia : A hospital based retrospective study. Kathmandu University Medical Journal. 2003;1(4):237-41.
18. Sibai BM. Diagnosis, prevention and management of Eclampsia . Obstetrics and Gynecology. 2005 Feb;105(2):402-10.
19. Ngwenya S. Severe Pre-eclampsia and Eclampsia : incidence, complications, and perinatal outcomes at a low-resource setting, Mpilo Central Hospital, Bulawayo, Zimbabwe. International journal of women's health. 2017;9:353.
20. Abate, M.M., Lakew, Z.. Eclampsia . A 5 years retrospective review of 216 cases manged in 2 teaching hospitals in addis abada. Ethiop Med j 2006;44(1), 27-31
21. Duley, L.. Global impact of Pre-eclampsia and Eclampsia . Semin perinatal 2009;33(3), 130-7.
22. Tuffnell DJ, Jankowicz D, Lindow SW, et al; Yorkshire Obstetric Critical Care Group. Outcomes of severe Pre-eclampsia /Eclampsia in Yorkshire 1999/2003. BJOG. 2005;112(7):875–880
23. Chibber R, Al-Hijji J, Amen A, et al. Maternal and perinatal outcome of Eclampsia over a decade at a tertiary hospital in Kuwait. J Matern Fetal Neonatal Med. 2016;29(19):3132–3137
24. Manisha Kumar, JyotiMeena, Usha Gupta, Abhasingh Namitha Jain Dept of OBGY, Lady Hardinge Medical College, new Delhi Management of early onset pre Eclampsia in a tertiary hospital in India: Does expectant management alter the perinatal outcome Year2011, Volume 65 Issue12 P: 535-542.
25. Noraihan, M.N., Sharda, P., Jammal, A.B. (2005). Report of %0 cases of Eclampsia . J Obstet Gynaecol Res.31 (4), 302-9
26. Sibai, B.M. (1990). Eclampsia .VI. maternalperinaatal outcome in 254 consecutive cases. American Journal of Obstetrics and Gynecology, 163 (3), 1049-1054.
27. Das BN, Das M, Gupta PC. Maternal outcome in Eclampsia . Journal of Medical Sciences July 2005;13;2;161-164