Original Research Article

Comparative study of clinico-epidemiological profile of eclampsia and normotensive patients

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Abstract

Background: The present study is undertaken to identify the factors influencing maternal and perinatal outcome, in terms of maternal and perinatal mortality and morbidity rate in eclampsia in semiurban population as compare to normotensive patients. **Aim and Objective:** 1) To note incidence of eclampsia in semiurban tertiary care referral centre. 2) To know the factors influencing maternal and perinatal morbidity and mortality and to analyze patients age, parity, gestational age, mode of delivery in eclampsia. 3) To compare with previous studies. **Material and Methods Study design:** Type of study- The prospective study. **Study period:** Was one year from January 2013 to January 2014 **Study place:** A tertiary care referral centre. **Sample Size:** 100 cases of eclampsia patients admitted to tertiary care centre, during study period were studied in comparison with 100 cases of normotensive pregnancies. **Methods:** Data were collected by using predesigned questionnaire. **Conclusion:** One of the important cause of maternal and perinatal morbidity and mortality due to lack of proper ANC check-up, low socio-economic status and lack of education.
Key Words: ANC –antenatal care, maternal morbidity, perinatal morbidity.

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INTRODUCTION

Eclampsia: derived from the Greek word meaning; "Like a flash of Lightening" i.e., it may occur abruptly and is a life threatening emergency that continues to be a major cause of maternal and perinatal mortality.[1] in the fifth century, Hippocrates noted that headache, convulsion and drowsiness were ominous signs of pregnancy. in 1619 "Varandaeus" coined the terms eclampsia.[2] In India eclampsia, preeclampsia contributes to 8 to 14% of maternal deaths [3] Pre-eclampsia/eclampsia ranks second only to hemorrhage as a specific direct cause of maternal mortality; it caused 63,000 deaths worldwide in 2002. Preeclampsia/eclampsia is associated with four times higher risk of newborn deaths. Large multicentre randomized controlled trials and systematic reviews provide strong evidence of the effectiveness of magnesium sulphate ($MgSO_4$) treatment for severe pre-eclampsia and eclampsia. The maternal mortality ratio (MMR) for India in 2009 was 212 per 100,000 live births. With hypertensive disorders causing 5% of maternal deaths.[4] This condition emerged as the number one killer in Maharashtra state of India where it contributed to 26% of the maternal deaths.[5] High incidence of eclampsia is largely explained by referral of complicated cases to major centers.[6] Patients with eclampsia, develop complications because they reach the hospital late and the complications are so severe that in most cases they are irreversible. The present study is undertaken to identify the factors influencing maternal and perinatal outcome, in terms of maternal and perinatal mortality and morbidity rate in eclampsia in semiurban population as compare to normotensive patients.

MATERIAL AND METHODS

Study design: Type of study- The prospective study

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Study period: Was one year from January 2013 to January 2014

Study place: A tertiary care referral centre.

Sample size: 100 cases of eclampsia patients admitted to tertiary care centre, during study period were studied in comparison with 100 cases of normotensive pregnancies.

Methods: Data were collected by using predesigned questionnaire. Since most patients were drowsy or unconscious at the time of admission, relevant information was mostly collected by interview of their relatives or attendant and from previous medical record sheets. incidence of eclampsia is 1.62% in our study.

Table 1: Age wise distribution of eclampsia and normotensive cases

	Eclampsia		Normotensive	
	Frequency	Percent	Frequency	Percent
≤20	14	14.0	21	21.0
21-25	65	65.0	41	41.0
26-30	20	20.0	33	33.0
≥31	1	1.0	5	5.0
Total	**100**	**100.0**	**100**	**100.0**

Chi Square Test= 12.68; df=3; p<0.01; Highly Significant

We found that age wise distribution among eclampsia and normotensive cases was statistically significant.

Table 2: Distribution of cases of eclampsia and normotensive cases according to residential address

	Eclampsia		Normotensive	
	Frequency	Percent	Frequency	Percent
Urban	20	20.0	29	29.0
Rural	80	80.0	71	71.0
Total	**100**	**100.0**	**100**	**100.0**

Chi Square Test= 2.18; df=1; p>0.05; Not Significant

Above observation shows residential address of rural and urban patients was not statistically significant.

Table 3: Distribution of cases of eclampsia and normotensive patients according to patient's education

	Eclampsia		Normotensive	
	Frequency	Percent	Frequency	Percent
Literate	23	23.0	46	46.0
Illiterate	77	77.0	54	54.0
Total	**100**	**100.0**	**100**	**100.0**

Chi Square Test= 0.110; df=1; p>0.05; Not Significant

We did not found any statistical significance between literate and illiterate patients.

Table 4: Gravidity

	Eclampsia		Normotensive	
	Frequency	Percent	Frequency	Percent
Primigravida	84	84.0	70	70.0
Multigravidas	16	16.0	30	30.0
Total	**100**	**100.0**	**100**	**100.0**

Chi Square Test= 5.53; df=1; p<0.05; Significant

We found this distribution was statistically significant.

Table 5: Registered Cases among eclampsia and normotensive cases

	Eclampsia		Normotensive	
	Frequency	Percent	Frequency	Percent
Booked	20	20.0	78	78.0
Unbooked	80	80.0	22	22.0
Total	**100**	**100.0**	**100**	**100.0**

Chi Square Test= 60.30; df=1; p<0.01; Highly Significant

Table 7: Platelet Count

	Eclampsia		Normotensive	
	Frequency	Percent	Frequency	Percent
Decrease	5	5.0	0	0.0
Normal	95	95.0	100	100.0
Total	**100**	**100.0**	**100**	**100.0**

Chi Square Test= 5.12; df=1; p<0.05; Significan

Table 8: LFT

	Eclampsia		Normotensive	
	Frequency	Percent	Frequency	Percent
Deranged	4	4.0	0	0.0
Normal	96	96.0	100	100.0
Total	**100**	**100.0**	**100**	**100.0**

Chi Square Test= 4.08; df=1; p<0.05; Significant

Table 9: Distribution of eclampsia and normotensive cases according to mode of Delivery

	Eclampsia		Normotensive	
	Frequency	Percent	Frequency	Percent
Spontaneous vaginal	4	4.0	79	79.0
Vaginal induced	24	24.0	3	3.0
instrumental	3	3.0	3	3.0
LSCS	67	67.0	15	15.0
Hysterotomy	2	2.0	0	0.0
Total	**100**	**100.0**	**100**	**100.0**

Chi Square Test= 101.82; df=4; p<0.01; Highly Significant.

DISCUSSION

Eclampsia is a devastating complication of pregnancy. In the western countries the incidence of eclampsia has fallen due to the provision of standard antenatal care for most pregnant women in these countries. Incidence of eclampsia in developing countries is 0.94 % to 1.8%. The incidence in the present study is 1.62% which is comparable to 0.14 to 1.4% as reported by Gaddi Suman *et al* (2007)[7], in 2007. Our results are also comparable to other recent Indian studies like 2.79% by Arup Kumar Majhi (2001)[8].1.6% by Kuljit kaur *et al* (2014)[2].and 0.9% in 2013 as per study by Bhalerao Anuja *et al*(2013)[9]. 1.82% as studied by Rajsri *et al* (2010)[10.] Table 1-In our study most of the patients of eclampsia (62%) were between age groups of 21 -25 years of age, our findings were similar to that of most of the studies. According to Gaddi Suman *et al* (2007)[7], most patients between were age group 17 to 36 years. Bhalerao Anuja (2013)[11] and

Kuljit Kaur *et al* 2014.[2] reported that average age of eclampsia cases was between 25 to 30 years and 20 to 25 years respectively. Table no. 2 was suggestive of 80% of eclampsia cases were from rural area and 20% cases were from urban area. Our findings are similar to Savita *et al* 2009[12], who reported 84% of rural and 16 % urban population in their study.

Table no.3 shows that 77% of cases were illiterate and 23% of cases were literate among eclampsia cases. Our findings are contradictory to Savita *et al* 2009[12] who reported 61% cases were educated and 39% cases were illiterate. Table no.4 shows that most of the cases of eclampsia were primigravida. Our findings are consistent with study by Agudelo - Agustinconde (1997)[13], where nulliparity and young maternal age are well accepted risk factors for eclampsia. We found that 84 % of our patients were Primigravida, our results are corresponding with Arup Majhi AK *et al* (2001)[14] 88.37%.and Kuljit Kaur *et al* (2014)[2] 85 % and 72.73% by Bhalerao Anuja *et al* (2013)[11]. Table no 5 shows that 80% of cases of eclampsia were unbooked. Among all normotensive cases 78% cases were booked. This result was statistically significant. Our findings are similar to Arup Kumar Majhi 2001[14], reported 82.3% of unbooked cases among eclampsia tn their study. Rajsri G *et al* (2010) [10] observed that 91% of patients were unbooked. Our findings are consistent with that of Savita *et al*[12] who reported normal fundus findings in 94 % of cases, hypertensive changes in 3%, Papilloedema in 3% of cases of eclampsia. We observed that in our study all eclamptic patients had proteinuria out of which 48 % were having proteinuria >3+, 37% showed >2+. Proteinuria was absent in all normotensive cases. Rajsri *et al* (2010)[10] in their study found 47.82 % of perinatal deaths in cases having proteinuria >3+.Savita *et al*[12] reported all cases (100%) were having proteinuria. Table no 6,7 shows that platelet counts in our study were decreased in 5% of cases where as 95 % of cases showed normal platelet counts. Our result is similar to most of the studies. In all normotensive cases platelet counts were normal. We found that liver function test were normal in 96 % of cases 4 % showed deranged liver function test. Both these results were showing statistical association. Table no 8 shows that in our study in 67% of cases LSCS was done. While most of the normotensive patients were delivered spontaneously, vaginaly. We found our result statistically significant. Menon (1961) and Worley (1984) recommended vaginal delivery in eclampsia reserving caesarean section only for obstetrical reasons. On the other hand Pritchard (1985) and Chesley (1978) have favored caesarean section to reduce maternal and perinatal mortality. Our results were comparable to 56.36% caesarean section performed as reported by Bhalerao Anuja *et al* (2013)[11]. Which shows timely management improves maternal and foetal outcome. The presence of eclampsia alone was not an indication for caesarean delivery, but the decision to perform a caesarean delivery was based on multiple factors which included foetal gestational age, foetal status, the stage of labour, and cervical Bishop score. Our findings are contradictory to study by Kuljit Kaur *et al* (2014)[2] 35 % of cases underwent caesarean section and 65 % with vaginal delivery. Sibai BM 1990[15] reported 72% LSCS rate in their study.

CONCLUSION

Eclampsia still remains a major problem in developing countries. A moderate reduction of death of mother and foetus in our institution was possible due to wider use of magnesium Sulphate, timed delivery, proper implementation of emergency obstetric care facilities to mother with eclampsia.. Most of the patients were primigravidas. In the age group 21-25 years, unbooked, most of the patients with gestational age 29 to 36 weeks. Most of the patients were referred cases. most of the patients many of the patients were irritable, unconscious on admission and other clinical changes like edema, proteinurea, decreased platlate count, deranged liver function test as compared to normotensive patients. One of the important cause of maternal and perinatal morbidity and mortality due to lack of proper ANC check-up, low socio-economic status and lack of education.

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