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# ECLAMPSIA; MATERNAL AND PERINATAL MORTALITY AT BMC COMPLEX QUETTA



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**ABSTRACT...** [mohammad\\_shahwani456@hotmail.com](mailto:mohammad_shahwani456@hotmail.com) **Objective:** To evaluate incidence, morbidity and mortality associated with Eclampsia. **Design:** Prospective study of 98 cases of eclampsia. **Setting:** department of obstetrics and gynaecology unit II Bolan Medical Collage Complex Quetta. **Patients:** 98 cases were admitted with eclampsia during two years and six months period from 1<sup>st</sup> June 2001 to December 2003. **Results:** Total no of admissions were 6952. 98 patients presented with eclampsia making a frequency of 1.40%. Of these 98 cases of eclampsia 58 % were primigravidas, mean age of eclamptic patients was 34 years. Gestational age at admission was less than 35 weeks in 80(78.4%) cases. 54(55%) patients had intrapartum eclampsia. 64 (66.7%) patients received diazepam and rest received Magnesium sulphate as anticonvulsant. Caesarean section was done in 10 (11.49%) cases rest delivered vaginally. Fetal loss was seen in 72(82.75%) patients, while 7(7.14%) mothers died of eclampsia. **Conclusion:** Maternal and perinatal mortality and morbidity is very high in eclamptic patients. Magnesium sulphate is good anticonvulsant, helpful in reducing maternal morbidity and mortality considerably. Good antenatal practices, maternal education and awareness, provision of better health facilities and their utilization will definitely improve maternal and fetal outcome.

## INTRODUCTION

Eclampsia is potentially fatal disorder of pregnancy characterized by hypertension, proteinuria with or without edema associated with seizures during pregnancy or within ten days of delivery. About half a million women die of causes related to pregnancy 98% of these deaths occur in developing countries<sup>1</sup>. 13% of maternal deaths are due to hypertensive disorders of pregnancy particularly eclampsia<sup>2</sup>. Eclampsia is preceded by alarming symptoms and signs of pregnancy induced hypertension (PIH) so early detection of these signs and symptoms by good antenatal care and initiation

of intensive therapy will prevent occurrence of eclampsia<sup>3</sup>. Incidence of eclampsia varies inversely with the quality of antenatal care. Inadequate antenatal care increases incidence of eclampsia<sup>4</sup>. The steep decline in fatality rate in developed countries is mainly due to better antenatal care, effective treatment of pregnancy induced hypertension and early intervention if morbid condition develops<sup>5</sup>. A review of eclamptic patients in a tertiary care hospital is presented. The object of the study is to evaluate incidence of eclampsia, its management, safer anticonvulsant, better route of delivery, maternal and perinatal mortality associated with eclampsia.

## PATIENTS & METHODS

This prospective cross sectional observational study was conducted in the unit II of department of obstetrics and gynaecology of Bolan Medical Complex Quetta from 1<sup>st</sup> June 2001 to 31<sup>st</sup> December 2003. All patients admitted during this period with eclampsia or developed seizures in the unit were included in the study. All the patients included in the study were evaluated by detailed history, physical examination and necessary routine investigations like complete blood cell count, platelet count, coagulation profile, renal function test, liver function test, serum electrolytes, uric acid, blood glucose, fundoscopy and urine for protein analysis were carried out. Immediate management included passing an airway, control of fits and blood pressure, intake output record and induction of labour in antenatal patients. Patients were continuously monitored in eclampsia room till they were stable and ambulatory. Seizures were prevented by parenteral Diazepam infusion (Dose: 10 mg IV stat and with maintenance dose of 40 mg in 1000 ml 5% dextrose water). 34 patients received Magnesium sulphate (Dose: loading dose 4g over 10 minutes IV plus 10 grams IM, maintenance dose 2-4gm/hour IV). For control of blood pressure sublingual Nifedipine 10 mg and infusion methyldopa (Dose: 1 to 3gm/day in three divided doses as 100ml infusion) were used. In conscious patients oral methyldopa was used.

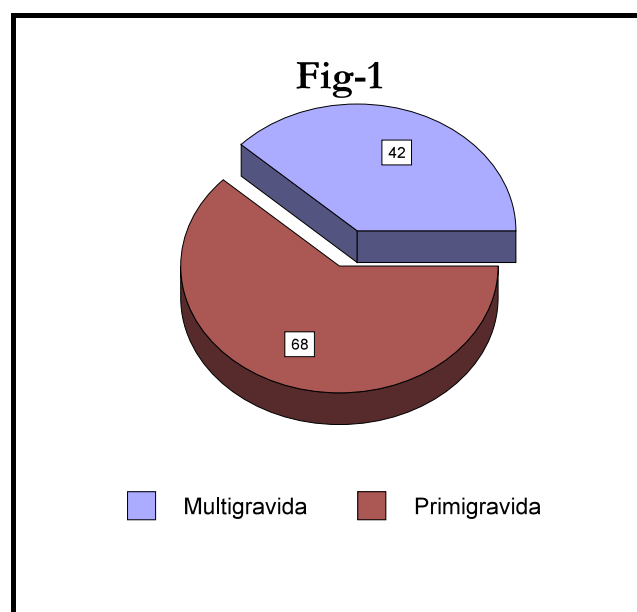
Patients' socio demographic and clinical data was collected in a register. Data source included interview from patients and their attendants, obstetric record of the patient, referral letter in case patient was referred from any health facility.

## RESULTS

During the study period total numbers of obstetric admissions were 6952 and 5112 patients delivered in the unit. During this period 98 cases were admitted with eclampsia (frequency 1.40%). Fifty seven (58%) patients were primigravida, 42% patients were multigravida (Fig 1). 69 (70.4%) patients were less

than 25 years old. Average age of the eclamptic patients was 34 years (Table I).

Age/years	No of patients	%Age
15-20	28	28.57
21-25	41	41.83
26-30	24	24.48
31-35	15	15.30



Ninety one percent patients were unbooked. 38 (37.24%) patients were referred from other hospitals mostly from remote areas of Balochistan such as Noshki, Kalat, Dalbandin etc. None of these had received specific treatment of eclampsia before coming to our department. Blood pressure was never checked in 42 (41.16%) patients during antenatal period. There was history of preceding symptoms before developing seizures in 62% patients.

Gestational age at the time of admission varied from 27 weeks till term. In 80 (78.4%) patients gestational age was less than 35 weeks. 89 patients were admitted before delivery while 9 patients had postpartum

eclampsia (see table II).

Gestational age in weeks	No. of Pts.	%age
24-27	6	6.74
28-31	30	33.70
32-35	44	49.43
36-40	9	10.11

Fifty four (55.10%) patients had intrapartum eclampsia, and 35(35.71%) had antepartum seizures while nine patients had fits 24 hours after delivery.

Type	No. of Pts.	%age
Antepartum	35	35.71
Intrapartum	54	55.10
Postpartum	9	9.19

Complications of anti convulsants	Diazepam (n = 64)		MgSO <sub>4</sub> (n = 32)	
	No	%age	No	%age
Respiratory	5	7.81	1	3.12
Renal failure	4	6.26	-	-
Blindness	2	3.12	-	-
Focal motor deficit	3	4.68	1	3.12
DIC	1	1.56	-	-
HELLP syndrome	1	1.56	-	-
Maternal death	6	9.37	1	3.12

Ninety six (97.95%) patients had fits while admitted in our unit. Most of them had fits twice or thrice. In sixty four (66.66%) patients fits were controlled by Diazepam injection (as we were not using MgSO<sub>4</sub> at that time). In thirty two (33.33%) patients MgSO<sub>4</sub>

was used as anticonvulsant. Eighteen (18.75%) of these patients had one or more major complications of eclampsia such as pulmonary edema, cerebrovascular accident cardiovascular problems, DIC, etc.

Of these 98 cases of eclampsia, two died before any treatment while 9 had post partum eclampsia, so 87 patients were delivered in our unit. In twenty eight (29.16%) patients induction of labour was required after control of fits and blood pressure. In 24 of these cases labour progressed well with induction while in 4 patients caesarean section was done because of induction failure. Another 6 patients had caesarean section because of obstructed labour. 53(60.91%) patients were already in advance labour so they had spontaneous vaginal delivery.

Mode of delivery	No of patients	%age
Induction of labor	24	27.59
Spontaneous vaginal delivery	53	60.92
Caesarean section	10	11.49
Total	87	100

Out of these 87 births 63(72.41%) were still births, 9(10.34%) were early neonatal deaths. This shows perinatal mortality rate (PMR) of 827/1000 births and still birth rate (SBR) of 724/1000 births. Prematurity was the major risk factor for perinatal mortality as 80% deliveries occurred at less than 35 weeks. Only 15(17.24%) babies were alive by the end of first week.

Nine of these 98 cases of eclampsia died showing case fatality rate (CFR) of (9.18%). Two patients were already in moribund condition and they died before any resuscitative measures were taken. In 7 patients mean admission to death interval was 42 hours. In 6 patients Diazepam was used as anticonvulsant while in one patient MgSO<sub>4</sub> was used.

The cause of death in the last group was acute renal failure.

## DISCUSSION

The frequency of eclampsia as evaluated in the study is 1.40%. It is comparable with the studies from other hospitals in Pakistan such as 2% in civil hospital Karachi<sup>6</sup>, 1.8% in Nishtar hospital<sup>7</sup> and 1.7% from Faisalabad<sup>8</sup>. It is also comparable with the incidence reported by the neighboring countries like India which is 2.2%<sup>9</sup>. But it is not comparable with the incidence reported in developed countries. In UK eclampsia occurs unexpectedly in about 1 in 2000 maternities showing an incidence of 0.72%<sup>5</sup>. In USA frequency is 0.28%<sup>10</sup> and 0.024% in Finland<sup>11</sup>.

Gravidity also influences the incidence of eclampsia. In this study incidence of eclampsia was higher among primigravidae (58%). In Harrison's study of primigravidae under 15 years of age 17% had eclampsia and 12% had PIH<sup>12</sup>. In current study maximum incidence of eclampsia was seen in patients with gestational age between 32 to 35 weeks. This is in accordance with the study from Nigeria where 90% of the patients had eclampsia after 28 weeks of pregnancy<sup>13</sup>.

In the current study 54(55.10%) patients had intrapartum-eclampsia, while lowest incidence was that of postpartum eclampsia (9.19%). It is analogous with the study by Lubarsky<sup>14</sup>.

In 32(33.3%) patients magnesium sulphate was used as anti convulsant. It appeared superior to diazepam; significantly fewer recurrence of fits occurred with magnesium sulphate (11/32) than with diazepam (31/64). The maternal death rate was low (3.12%) as compared to diazepam (9.37%). These results are comparable with other studies<sup>15,16,17</sup>.

Perinatal mortality in this study was 827/1000 births which is quite high as compared to other studies from Pakistan. This was most probably higher because 90% patients were unbooked, illiterate, poor and

brought late with fits from remote areas of Balochistan.

Case fatality rate (CFR) in this study was (9.18%) which is comparable with figures reported from other parts of the country i.e. Karachi, Multan<sup>6, 7</sup>. As prematurity was the major risk factor for perinatal mortality, early management of pregnancy induced hypertension, preventing premature labour, upgrading of neonatal facilities, and early delivery by caesarean section can improve the perinatal outcome.

## CONCLUSION

Eclampsia is a life threatening complication of pregnancy. Drastic measures are required to decrease maternal and perinatal mortality due to eclampsia. This needs participation of community, governmental and nongovernmental organization, doctors, nurses and paramedical staff. Community should be educated about the importance of antenatal care. Proper training of medical staff regarding emergency care of eclampsia and early referral to tertiary care centre is required.

Other measures include ensuring availability of transport at the time of need, intensive care facilities in tertiary care hospital and proper neonatology unit. Protocol for the management of eclampsia must be implemented in labour room. We need to strengthen the community health care system by training the lady health workers, ensuring availability of trained personnels in the underprivileged communities and regulate antenatal booking in every part of the country.

## REFERENCE

1. Castro LC: **Hypertensive disorders of pregnancy** In: Hacker N Moore JG eds. *Essentials of obstetrics and gynecology*, 3<sup>rd</sup> ed. Philadelphia, Pa : WB Saunders Inc ; 1998 : 196- 207.
2. World health organization. **The world health report 1998: life in the 21<sup>st</sup> century; a vision for all**. Geneva: WHO. 1998 P. 97.

3. Duly L: **Maternal mortality associated with hypertensive disorders of pregnancy in Africa, Asia, Latin America and the Caribbean.** Br J obstet. Gynecol 1992 Jul; **99(7)**: 547- 53.
4. Elward K: **Eclampsia (toxemia of pregnancy).** In: Dambro MR, ed. Griffith's 5 minutes consult. Baltimore, MD: Williams & Wilkins; 1999: 348-50.
5. Leitch CR, Walker. JJ; **The changing pattern of eclampsia over a 60 years period.** Br J. Obstet Gynecol 1997; **104**: 917-922.
6. Ayesha K, Nargis S. **Eclampsia: an aggressive approach is needed.** Medical channel. 1998;**4**: 13- 17.
7. Naseer D, Ataullah K, Nudrat E. **Perinatal and maternal outcome of eclamptic patients admitted in Nishtar Hospital Multan.** J. Coll. Physician Surg. Pak 2000; **10**: 261- 4.
8. Bashir A, Aleem M, Shagufta J. **Community education and downward trend in maternal deaths due to eclampsia.** Specialist int. 1996; **12**: 147- 54.
9. **"Maternal and perinatal mortality due to eclampsia"**. Indian Pediatr 1993 Jun; **30(6)**: 771-3.
10. Mahmoudi N, Graves SW, Solomon CG, et al. **Eclampsia: 13 years experience at a United State tertiary care centre.** J women's health Gender based Med. 1999; **8**: 495-500.
11. Ekholm E, Salmi MM, Erkkola R: **Eclampsia in Finland in 1990-94.** Acta Obstet Gynecol Scand 1999; **78**: 877- 82.
12. Harrison K.A, Rositter C.E: **"Child bearing Health and social priorities"**. Br J Obstet Gynecol. 92 suppl. **5**: 23- 31.
13. Oladokun A, Okewole AI, Adewde I.F, et al. **Evaluation of cases of eclampsia in the university college hospital, Ibadan over a 10 years period.** West Afr J Med 2000; **19**: 192- 4.
14. Lubarsky SL, Barton JR, Friedman SA: **Late postpartum eclampsia revisited.** Ostet Gynecol 1994 Apr; **83(4)**: 502- 5.
15. L Duley. **Which anticonvulsant for women with eslampsia? Evidence from the Collaborative Eclampsia Trial.** Lancet. 1995; **345**: 1455-63.
16. Sawhney H , Aggarwal N, Biswas R, et al. **Maternal mortality associated with eclampsia and severe pre-eclampsia of pregnancy.** J Obstet Gynaecol Res 2000; 351- 6.
17. Sibai BM: Eclampsia. VI. **Maternal – perinatal outcome in 254 consecutine cases.** Am J Obstet Gynecol 1990 Sep; **163(3)**: 1049- 54.