Maternal and Fetal Outcome of Eclamptic Patients in a Tertiary Hospital

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Abstract

Objective: To study on clinical profile & maternal - fetal outcome of eclamptic patient.

Methods : A prospective cross sectional study was done in the department of Obstetrics & Gynaecology in Chittagong Medical College and Hospital from January to December 2010. All patients with eclampsia were included in the study, it was 416. Patients came with convulsion other than eclampsia e.g. epilepsy, malaria, septicemia, meningitis, encephalitis, cerebral haemorrage, high fever, hepatic coma were excluded.

Main outcome measures: Incidence of eclampsia, sociodemographic status, ante natal care, time interval between attack and admission , level of consciousness was assessed by AVPU(Alert ,response to voice ,response to pain stimuli, Unconsciousness) score, types of eclampsia patients (antepartum,intrapartum,postpartum), number of convulsion ,gestational age distribution of the patients, mode of delivery , maternal and fetal outcome .

Results: Total number of deliveries during this period was 13,635. The incidence of eclampsia in this study was 3.05 %. Among 416 patients with eclampsia most of the patients were between 20-25 years (77%), a large number were primi para (72.5%), most of them comes from rural area (76%), most of them belongs to poor socioeconomic condition (72%), 49% patients were illiterate, 60 % patients had no antenatal check up, 52 % patients came after 6 hours of beginning of convulsion, 18 patients (4%) were unconscious, most of the patients had antepartum eclampsia (64%) , number of convulsion was between 5-9 in about 58% case , 63% were delivered by LSCS, 23% mother showed complications of eclampsia, of them pulmonary oedema (7.45%) and renal failure(6.49%) were common, 35 (8%) mothers were died. Among perinatal mortality 18% baby were stillbirth and 9% were early neonatal death.

Conclusion: Eclampsia is still a major killer disease in Bangladesh. It is a preventable disease if preeclampsia is diagnosed by antenatal care. By giving quality antenatal care, mass awareness regarding the importance of antenatal care, emergency obstetric service in the upazilla health complex we can prevent eclampsia. Female education, employment, empowerment is urgently needed to reduce the incidence of this killer diseases.

Key wards: Eclampsia , Antanatal care.

Introduction:

Eclampsia is a life threatening emergency that contributes to be a major cause of serious maternal morbidity and is still the leading cause of maternal mortality world wide[1,2]. It is estimated that every year eclapmsia is associated with about 50, 000 maternal death world wide, most of which occur in developing countries [2]. It is a multi-system disorder with complex pathogenesis, which is not completely understood [3]. The incidence of eclampsia has been reduced to .2 %-.5 % of all deliveries in developed countries. But in Bangladesh about 5% of the total pregnancies develop eclampsia [4] .There are approximately 3.6 million births per year in Bangladesh and over 10,000 women develop eclampsia each year [5]. It is one of the common cause of maternal mortality and responsible for 20 % of maternal death [6]. Low educational status and low socioeconomic condition among the rural people of Bangladesh is the main cause of absence of antenatal care and development of eclampsia . Bad communication and absence of nearby hospital facility are also adding to the problem.

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Materals & Methods:

A prospective cross sectional study was carried out in the department of Obstetrics & Gynecology in Chittagong Medical College and Hospital from January to December 2010 .All patients with eclampsia was included, it was 416. Patients came with convulsion other than eclampsia e .g. epilepsy, malaria, septicemia, meningitis, encephalitis, cerebral haemorrage , high fever, hepatic coma were excluded.

Tools of data collection : Data were collected from patients and their attendants (unconscious patients) by preset questionnaire & interview. Data were analyzed by using calculator.

Main outcome measures: Incidence of eclampsia, sociodemographic status [7,] ante natal care , time interval between attack and admission , level of consciousness was assessed by AVPU(Alert ,response to voice ,response to pain stimuli, Unconsciousness) score [8], types of eclampsia patients (antepartum,intrapartum,postpartum), number of convulsion ,gestational age distribution of the patients, mode of delivery , maternal and fetal outcome

Operational definition:

1. Eclampsia is defined as the occurrence of convulsions during pregnancy or in the first 10 days post partum with at least two of the following features within 24 hours after convulsion-

   A. Hypertension (DBP > 90 mm of Hg)

   B. Proteinuria (at least 3 plus protein in random urine sampling or more   than 3 gram in   a 24 hour urine collection)

   C. Thrombocytopenia (platelet count of $<100 \times 109$) or raised serum aspertate

2. Quality antenatal care   At least 4 or more check up by an authorized service provider along with birth planning and awareness about five danger sign.

3. Regular antenatal care: At least 4 or more check up by an authorized service provider.

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

5. Socioeconomic status:

1. Monthly income	Score	2. Type of house	Sc<ore
<3000	1	Thatched	1
3000-5000	2	Tin	2
5000-10000	3	Brick built	3
>10000	4		
3. Assets	Score	4.Type of latrine	Score
None	0	Unsanitary	0
Simple belonging	1	Sanitary	1
Cultivable land :			
<5 bighas	2		
5-10 bighas	3		
>10 bighas	4		
Socioeconomic status		Score	
Lower class		02-04	
Lower middle class		05-07	
Upper middle class		08-09	
Upper class		10-12	

Source: Rahman M et al . Maternal status as a determinant of health. Journal of Tropical pediatrics. 1993; 34 : 89-90.

The study was reviewed and approved by the ethical and review committee of Chittagong Medical College and Hospital.

Results:

Total number of deliveries during this period was 13, 635 .Incidence of eclampsia in this study was 3.05 %.

Table-I
Sociodemographic Status of the Patient

Age Mean age:	<20 Yrs		20-25 Yrs		>25 Yrs	
22.17±2.24(SD)	No. of patient	Percentage	No. of patient	Percentage	No. of patient	Percentage
	68	16	321	77	27	7
Parity	Primi		Multi		G. Multi	
	302	72.5	107	26	7	1.5
Residence	Rural		Urban slum		Urban	
	316	76	89	21	11	3
Socioeconomic status	Lower class		Lower middle class		Uppermiddleclass	
	298	72	110	26	8	2
Educational status	Illiterate		Primary		High school	
	202	49	167	40	47	11

Table-II
Showing antenatal care of the patients (N=416)

ANC	No. of the patients	Percentage
No checkup	252	60
Irregular checkup	132	32
Regular checkup	32	8
Quality antenatal care	00	00

Table-III
Showing time interval between attack & admission of the patients (N=416)

Time	No. of the patients	Percentage
Within 1 hour	40	10
Between 1-6 hour	160	38
After 6 hour	216	52

Table-IV
Showing level of consciousness assessed by AVPU (N=416)

AVPU	No. of the patients	Percentage
Allert	171	41
Response to voice	115	28
Response to pain stimuli	112	27
Unconciousness	18	4

Table-V
Showing types of eclampsia (N=416)

Types	No. of patients	Percentage
Antepartum	266	64
Intrapartum	43	10
Postpartum	107	26

Table-VI
Showing number of convulsion (N=416)

No. of convulsion	No. of patients	Percentage
>10	85	26
5-9	239	58
<5	92	16

Table-VII
Showing gestational period (N=416)

Gestational period (weeks)	No. of patients	Percentage
<28	18	4
<37	142	34
>37	256	62

Table-VIII
Showing mode of deliveries (N=416)

Mode of delivery	No. of patients	Percentage
NVD	31	7.45
Caessarean section	260	62.5
Ventose	84	20.19
Forceps	36	8.65
Hysterotomy	05	1.20

Table-IX
Showing maternal complications (N=416)

Types	No. of cases	Percentage
Pulmonary oedema	31	7.45
Renal failure	27	6.49
CVA	13	3.12
Abruptio placenta	13	3.12
Pyrexia	6	1.44
DIC	8	.48

Table-X
Showing maternal outcome (N=416)

Outcome	No. of patients	Percentage
Alive	381	92
Death	35	8

Table-XI
Showing perinatal outcome (N=416)

Perinatal outcome	No. of patients	Percentage
Alive	302	73
Stillbirth	75	18
Early neonatal death	39	9

Discussion:

Unlike other develop countries; Eclapmsia is still a major obstetric problem in Bangladesh, constituting average 3-5 % of all deliveries [4]. This is also consistent with the findings of present study where the incidence is 3.05%. Among 416 patients most of the patients were between 20-25 years (77 %) .Mean age of the patients were 22.17 ± 2.24 SD. Many studies in Bangladesh showed that eclapmsia is prevalent below 25 years [3, 9, 10],. Nulliparity, poor socioeconomic status, poor educational status, house wife, irregular antenatal check-up are predisposing factor for eclampsia [11,12]. In our research most of patients were primi gravida (72.5 %), most of them comes from rural area (76 %), most of them belongs to poor socioeconomic condition (72%), a large number of the patients were illiterate (49 %),no patient received

quality antenatal care. This result consistent with other study [1,13,14 15]. In our study 52% patients came after 6 hours of beginning of convulsion. Khatun S showed that among 100 cases 35 patients came 5-8 hours of convulsion [16]. Which is due to ignorance about the grave sequence of the diseases, lack of transport facilities and fund. In this research 4 % patients were unconscious, 64 % patients were in antepartum eclampsia group. Begum M R and Choudhary P showed in their study that > 75 % patients were in antepartum eclampsia group [10, 13]. In our study 62 % patients were >37 weeks of gestation, 63 % delivered by LSCS . It is due to, to short cut the interval between convulsion and delivery. This results similar to other study results [13] . Guddi SS showed although 45.5 % patients were >37 weeks of gestation but 69.66 % delivered by vaginal deliveries [1] . It may be due to good BISOP score of the patients. In this research among the maternal morbidity pulmonary oedema (7.45 %) and renal failure (6.49 %) were common. Begum MS showed that pulmonary oedema and renal failure were 10.3 % and .7 % respectively [17]. In our research 8% mother were died but it is only 5.4 % and there was no maternal death showed by Guddi SS and Choudhary P respectively [1,13] .The difference of the results may be due to early hospital arrival and availability of better treatment facilities .Eclampsia not only kills mother but also kills fetus. In this research among neonatal outcome 18 % baby were still born and 9 % were early neonatal death .It is similar to other study result [1,9,13].

Conclusion:
Eclampsia is a preventable condition if pre-eclampsia is diagnosed by ANC. So, mass awareness regarding the importance of ANC in prevention of eclampsia is essential. EOC services in the upazill health complex can improve the maternal condition. Use of Magnesium sulphate in the community clinic level &early referral will reduce the maternal mortality and morbidity.

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