

## Presentation and Management Outcome of Eclampsia at Al-Elwiya Teaching Hospital

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### ABSTRACT:

#### BACKGROUND:

Eclampsia is a life-threatening complication of pregnancy for both the baby and the mother. Research is underway to understand this complex condition and to improve the treatments that are currently used to control it as it is a preventable complication of pre-eclampsia.

#### OBJECTIVE:

The study reviews the cases of eclampsia managed at Elwiya teaching Hospital with respect to incidence, management, maternal and perinatal outcome.

#### METHODS:

This prospective observational study was carried out in the department of Obstetrics and Gynaecology at Elwiya Teaching Hospital – Baghdad-Iraq. Fifty two cases of eclamptic fits were dealt with from the 1<sup>st</sup> of January till the 31<sup>st</sup> of December 2008. Pregnant patients with other convulsive disorders and more than 7 days postpartum were excluded from the study. All the patients included were evaluated by detailed history (taken from the attendants). Management was according to basic protocol for eclampsia; stabilization of patients, anticonvulsive therapy Magnesium sulfate, phenytoin and/or diazepam and early delivery. A team of specialists and trained nurses were needed in the intensive care unit to deal with eclamptic mothers.

#### RESULTS:

During the year 2008, total number of deliveries from the 1<sup>st</sup> of January till the 31<sup>st</sup> of December was 12154, of these patients 52 presented with eclamptic fit with incidence rate of 4.28 per 1000 deliveries. The distribution of cases regarding the seasons was more in winter. 35 patients (67.31%) had poor antenatal care, 17 (32.69%) had good antenatal care. Four patients had history of eclampsia in their previous pregnancies. All the patients gave history of imminent eclampsia; two of them had blindness also; albumin in urine was negative in two cases only. Serious maternal complications occurred in 28(53.84%) cases. Eight of the neonates died due to severe RDS.

#### CONCLUSION:

Eclampsia is still present and common in our locality; we need better antenatal care to predict pregnant ladies liable to develop eclamptic fit in order to decrease the incidence of eclampsia complicating pregnancy.

**KEY WORDS:** eclampsia. maternal outcome. neonatal outcome.

### INTRODUCTION:

Eclampsia is one of the fatal complications of pre-eclampsia which is a multisystem disorder; it presents a challenge to obstetricians and other physicians. Eclampsia is defined as seizure activity unrelated to other cerebral conditions in a pregnant woman with pre-eclampsia. The condition was known to the ancient Greeks, who named it eclampsia. It has been prevalent since the time of Hippocrates; it remains an important cause of maternal mortality throughout the world, accounting for about 50000 deaths worldwide.<sup>(1)</sup>

An eclamptic seizure occurs in 0.5% of mildly pre-eclamptic pregnancies and 2% of severe pre-eclamptics.<sup>(2)</sup> It is not precisely known what causes it, but it usually clears up when the baby is born. A team of specialists and trained nurses are needed in the intensive care unit to deal with eclamptic mothers. Research is underway to understand this complex condition and to improve the treatments that are currently used to control it.

In the past, eclampsia was thought to be the end result of pre-eclampsia; however, it is now clear that seizures are only one of several clinical manifestation of severe pre-eclampsia.

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Approximately one half of all cases of eclampsia occur prior to term, with more than one fifth occurring before 31 weeks gestation.<sup>(3)</sup> Just over one third of cases occur at term, developing intrapartum or within 48 hours of delivery.<sup>(4)</sup>

this study was carried out to highlight maternal and fetal outcome in pregnancies complicated with eclampsia trying to participate in establishing our guidelines to reduce the incidence and improve maternal and fetal outcome.

### **PATIENTS AND METHODS:**

This prospective observational study was carried out in the department of Obstetrics and Gynaecology at Elwiya maternity Teaching Hospital - Baghdad; it serves most of the Rusafa side and its peripheries. Fifty two cases of eclamptic fits were dealt with from the 1<sup>st</sup> of January till the 31<sup>st</sup> of December 2008. Pregnant patients with other convulsive disorders and more than 7 days postpartum were excluded from the study.

Eclampsia was documented by high blood pressure (140/90 mm Hg; an indicator of hypertension), edema, proteinuria (albumin in urine documented by heat coagulation test) and convulsion associated with pregnancy after 20 weeks gestation.

All the patients included in this study were evaluated by detailed history (taken from the attendants and or the patients) physical examination and then necessary investigations like full blood count, coagulation profile, renal function test, liver function test, urine for proteins. Fundoscopy was done to most of the patients by physician in the hospital and in some patients CT scan was done after delivery.

Management was according to basic protocol for eclampsia; stabilization of patients, anticonvulsive therapy Magnesium sulfate, phenytoin and/or diazepam and delivery started within 4 hours from receiving the patient. All patients were treated and followed during and after delivery for 6 weeks. Results were evaluated in terms of maternal and fetal outcome.

### **RESULTS:**

The incidence of eclampsia at Elwiya teaching hospital was 4.28 per 1000 deliveries for the year 2008. Most of the cases occurred in winter, and the majority were of age group 20-30 years as shown in table-I.

half the cases 26 (50%) were from rural areas and (50%) from urban areas. Primigravida constituted 55.77% (29 cases), multigravida 34.62% (18 cases), while grand multigravida constituted only 9.61% (5 cases). The gestational age was less than

37 weeks in 38 cases (73.08%) and 37 weeks or more in 14 cases (26.92%). Four patients had history of eclampsia in their previous pregnancies. All patients presented with imminent eclampsia. Albumin in urine was positive in 50 cases and negative in only two cases. Forty three (82.69%) of the convulsions occurred in the antepartum period, 7 (13.46%) intrapartum, and only 2 (3.85%) convulsions occurred in the postpartum period. six patients had convulsions at home and 46 (88.46%) of the convulsions occurred at hospital after admission. All the patients received anticonvulsents, diazepam administered to all the patients to stop the convulsion, 12 (32.08%) received magnesium sulphate also (5 gm magnesium sulphate as a loading dose was given via intramuscular route and then given maintenance dose as infusion 1gm /hour under close supervision) and only one patient (1.92%) received phenytoin loading dose.

Termination of pregnancy was decided regardless of gestational age, the criteria used to decide the mode of delivery was fetal condition and Bishop Score assessed by vaginal examination. Thirty eight (73 %) patient delivered by C/S as shown in Table – II.

Serious maternal complications occurred in 28 cases (53.84%) as we can see in Table - III, of these, 23 delivered by C/S and 5 delivered vaginally.

the gestational age of 38 of the neonates was less than 37 weeks, 16 of them were below 34 weeks. Neonatal outcome is plotted in table - IV.

### **DISCUSSION:**

Eclampsia is a preventable complication of pre-eclampsia, it became less common in the developed countries, but it is still a problem in developing countries, as it is an important cause of maternal and perinatal mortality and morbidity. The incidence of pre-eclampsia in developing countries varies widely from 6 to 100 per 10,000 live births<sup>(5)</sup>. The incidence of eclampsia in this work was 4.28 per 1000 deliveries. While studies from India<sup>(6)</sup>, Ethiopia<sup>(7)</sup> and Norway<sup>(8)</sup> showed incidence of 2.2%, 7.1/1000 deliveries and 5.0/10,000 maternities respectively and from United Kingdom<sup>(9)</sup> eclampsia complicates approximately one in 2,000 pregnancies.

Eclamptic fits occurred more in winter probably reflects the vasospasm induced by cold weather, as winter in Baghdad is cold, the temperature varies from zero to 25 degree centigrade's and the relative humidity is between 50% and 80%.. Observational studies have demonstrated various

correlations between hypertensive disorders of pregnancy and different weather parameters. Subramariam V<sup>(10)</sup> found an association between low temperature and high humidity with eclampsia but this effect was not seen with pre-eclampsia.

most patients in this study were primiparous (55.77%) in their twenties, this agrees with study from Ethiopia <sup>(7)</sup> While study in Banaras Hindu University <sup>(6)</sup> showed that eclampsia is more common in women below 20 years (more in adolescent) and Ade-Ojo IP <sup>(11)</sup> found that most of the patients were primiparous and their age below 25 years. Four patients gave history of eclampsia in their previous pregnancies which constitute 7.69% of the cases. Most of the eclamptic fits occurred in the ante partum period and after admission to hospital, this agrees with study in Tanzania <sup>(12)</sup> and Ethiopia <sup>(7)</sup> but does not agree with studies in the developed countries.<sup>(9,13)</sup>

Regarding anticonvulsant drugs, the shortage of drugs used for controlling and preventing eclampsia and sometimes antiepileptic drugs were needed after delivery, that's why the incidence of cesarean section (c/s) was high in this study.

Serious Maternal complications occurred in 28 (53.84%) cases. these complications were documented in 23 patients who underwent c/s and in only 5 patients who delivered vaginally; probably due to the deficiency in anticonvulsant drugs which made the responsible doctors do urgent c/s before proper stabilization of the patient

in order to stop the convulsion. As shown in table III, 19 patients had repeated convulsions of these two were unconscious, the first patient was 35 years old in her 34 weeks of pregnancy had normal fundoscopic examination and mild cerebral edema

after repeated convulsions and repeated use of valium , termination of pregnancy by c/s and the use of Dexamethazone and Frusemide the patient recovered after 48 hours .the second case was 18 years old from rural area and she was 28 weeks pregnant presented to us with blindness and then became unconscious CT scan showed right frontal, parietal and occipital lobe infarction; c/s done for her but the patient died after one week in the respiratory care unit (RCU). These results agree with that from Glasco <sup>(9)</sup> and study by douglas and redman <sup>(3)</sup> While study by Sibai BM <sup>(13)</sup> Showed that 70% of women with eclampsia developed maternal complications.Tank PD<sup>(14)</sup> found that neurological abnormalities contribute significantly to maternal mortality in eclampsia.

Maternal death (mortality rate was 1.92%) in this study. A study from Singapore <sup>(15)</sup> showed maternal morbidity 24.2% and death 1.6%. while Ducarme reported no maternal death.<sup>(16)</sup>

Perinatal mortality in eclamptic pregnancy ranges from 9-23% and is related to gestational age.<sup>(17,18)</sup>

This agrees with our results. We had 8 neonatal deaths, all were less than 34 weeks gestation, five of them died because of respiratory distress syndrome (RDS), two for severe intra uterine growth restriction (IUGR) and one due to abruption placentae. While Study by Tam Tam<sup>(19)</sup> revealed that most neonatal deaths were attributed to pulmonary insufficiency.

Early involvement of senior obstetric staff, optimal emergency management of seizures, hypertension, fluid balance, subsequent safe transfer and proper timing of delivery is essential to minimize morbidity and mortality.

**CONCLUSION:**

Improvement in patient assessment, a high index of suspicion even in apparently low-risk pre-eclamptic patients and early involvement of senior obstetric staff are crucial to reduce the incidence of this serious obstetric complication.

**Table I: Age group distribution.**

Age	Number	%
Less than 20	16	30.77
20-30	25	48.08
31-40	11	21.15
Total	52	100

**Table II: Mode of delivery.**

Mode of delivery	No	%
Immediate C/S within less than 4 hours	23	44.23
Failed induction - C/S	15	28.85
Induction - vaginal delivery	10	19.23
Vacuum extractor	2	3.58
Forceps delivery	1	1.92
C/S after 24 hours	1	1.92

**Table III: Maternal complications.**

Maternal complication	Number	%
Brain infarction	1	1.92
Unconscious	2	3.84
Repeated convulsions	19	36.53
RDS	6	11.53
Cardiac complications	2	3.84
APH	3	5.76
HELLP	3	5.76
Renal impairment	3	5.76
PPH	2	3.84
blindness	2	3.84
Low platelet	5	9.61
Delayed recovery	2	3.84
Maternal death	1	1.92

**Table IV: neonatal outcome.**

Neonatal outcome	Number	%
Alive	44	84.61%
dead	8	15.38%
premature	38	73.07%
RDS	15	28.84%
IUGR	11	21.15%

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