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MATERNAL AND PERINATAL OUTCOMES IN ECLAMPSIA IN A REFERRAL HOSPITAL IN NORTH EAST INDIA

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ABSTRACT:

Eclampsia continues to be a major health problem, particularly in developing countries that includes INDIA, contributing significantly to maternal and perinatal morbidity and mortality. We conducted a study to establish the incidence of eclampsia and the associated maternal and perinatal outcomes among eclamptic patients admitted to our department. A descriptive cross-sectional study of all women presenting with eclampsia was performed through October 2012 to September 2013. Twenty two patients presented with eclampsia and 14 cases presented with imminent eclampsia. Out of a total 11512 deliveries during the study period (incidence of 1.91 per 1000 births and 1.21 per 1000 births). Maternal and perinatal case fatality rates were 2(5.5%) and 9(25%) respectively. The cause respectively for both maternal death was pulmonary oedema. There were 9 perinatal deaths, seven out of which were IUD and two were still born babies. Eight babies had low-birth weight 10(22.3%). The high incidence of eclampsia and its complications during this study period may indicate the need for earlier and more meticulous intervention at both the clinic and hospital levels.

KEYWORDS: Eclampsia, Maternal outcome, Perinatal outcome.

INTRODUCTION

Hypertensive disorders are the most common medical complications occurring in 5-10% of pregnancies.[1] Eclampsia is a life threatening emergency that continues to be a major cause of maternal morbidity and is still the leading cause of maternal mortality worldwide. According to Chesley.[2] a description of this syndrome was mentioned in the ancient writings of both the Egyptians and the Chinese. In recent years the reported incidence of eclampsia ranged from 1 in 110 to 1 in 3448 pregnancies.[3-5] Imminent eclampsia is a state in which the patient is about to develop eclampsia. Usually there will be B.P. >160/110mmHg. Heavy proteinuria (3+ or 4+), hyperreflexia, severe continuous headache, blurring of vision or epigastric pain.

Morbidity from eclampsia is associated with acute renal failure, hepatic failure, pulmonary oedema and aspiration[6,7]. The causes of perinatal death are chronic placental insufficiency, iatrogenic preterm delivery, and placental abruption.[8,9] The aetiology of eclampsia has not yet been established and there are controversies surrounding the definition of an atypical presentation of eclampsia.[10.11] In most cases the onset of pre-eclampsia is insidious, and pathological changes occur weeks before clinically detectable hypertension and proteinuria. In addition, symptoms occur only at the end stage of disease, just before the eclamptic episode. It largely has been established that good antenatal care can prevent the occurrence of eclampsia. The extremely low incidence reported from Sweden indicates that appropriate prenatal care and early hospitalization of patients with pre-eclampsia can markedly reduce eclampsia. Similar findings were reported by Zuspan[12] and Gilstrap et al. The purpose of this study is to analyse the incidence of eclampsia and to identify the maternal and perinatal outcomes of eclamptic patients treated in RIMS hospital, Imphal, a tertiary care referral centre.

METHODS

Study setting

A descriptive cross-sectional study was carried out between October 2012 and September 2013 in the Department of Obstetrics and Gynaecology at Regional Institute of Medical Sciences, Imphal. It is a teaching and tertiary care referral centre in Manipur, India. During the study duration 22 patients of eclampsia and 12 cases of imminent eclampsia are admitted either to the labor ward or postnatal ward unless they need intensive care, in which instance they are admitted to

the Intensive Care Unit (ICU). Other causes of convulsion were excluded in all the study subjects. Neonates of eclamptic women were admitted to the Neonatal Unit or the Neonatal Intensive Care Unit (NICU) for observation or treatment depending on the needs of the particular neonate.

Study population

All pregnant women admitted to dept.of obstetrics and gynaecology RIMS, Imphal for delivery during the study period were included as study population. Eclamptic patients were identified, and after obtaining appropriate informed consent from the patient or patients' relatives all data were collected.

Patient management

Seizures were treated with standard regime as recommended by Pritchards[13] magnesium sulphate 4 gm as slow intravenous bolus followed by intramuscular injections of 10 gm and then 5 gm every 4 hours. The total duration of therapy was usually 24 hours from the last fit or delivery, whichever occurred first. Severe hypertension(diastolic BP of more than 110 mmHg) was managed by parenteral labetolol. Investigations include SGPT,SGOT, CBC, and urinalysis. Delivery of the patient, infact is the only definitive treatment was final treatment in our study, and mode of delivery was determined depending on Bishop's score or any other additional obstetrical problem.

RESULTS AND OBSERVATIONS

There were 22 cases who presented with eclampsia and 12 cases who presented with imminent eclampsia out of 10562 deliveries during the study period. This yielded an incidence of 2.08/1000 births for eclampsia and 1.13/1000 births for imminent eclampsia . twenty five(75%) of them were unbooked. The mean age of the eclamptic patients was 25 years (ranging from 17 to 35) and 26 years for imminent eclampsia (ranging from 20-35 years), and the majority of these patients were primiparous. Majority of the patients were illiterate. Most of the patients were unbooked. Among those who developed eclampsia,7 patients developed the condition before labour, 10 during labour and 5 in postpartum period.

Table 1 Sociodemographic characteristics of eclamptic and imminent eclamptic patients

AGE(YEARS)	ECLAMPSIA	IMMINENT ECLAMPSIA
17-19	2(9%)	-
20-25	10(45%)	7(50%)
26-30	7(32%)	5(35%)
31-35	3(14%)	2(15%)
REGISTRATION		
BOOKED		11(30%)
UNBOOKED		25(70%)
EDUCATIONAL STATUS		
ILLITERATE		24(70%)
LITERATE		10(30%)

Table 2: Characteristics of eclamptic and imminent eclamptic pateints

GRAVIDA	ECLAMPSIA	IMMINENT ECLAMPSIA
PRIMIGRAVIDA	15(68%)	10(71%)
G2,G3	6(27%)	3(21%)
G4 & above	1(4.5%)	1(8%)
TYPE OF ECLAMPSIA		
ANTEPARTUM		7(20.5%)
INTRAPARTUM		10(29.4%)
POSTPARTUM		5(14.7%)
MEAN ARTERIAL PRESSURE	**ECLAMPSIA**	**IMMINENT ECLAMPSIA**
$\leq$ 110 mmHg	5(22.7%)	4(28.6%)
110-130 mmHg	14(63.6%)	8(57.2%)
$\geq$ 130 mmHg	3(13.6%)	2(14.2%)

Maternal outcome

There were two maternal deaths, accounting for a case fatality rate due to eclampsia of 5.8%, both dueto pulmonary edema. HELLP syndrome developed in 6(18%) patients.

Table 3 Maternal complications

Respiratory tract infection	3(8%)
UTI	3(8%)
Abruptio placenta	3(8%)
Oligouria	6(8%)
Intracranial Haemorrhage	-
Pulmonary edema	5(15%)
HELLP syndrome	6(18%)
IUFD	7(20.5%)
Aspiration pneumonia	2(6%)

Perinatal outcome

Ten babies (28.8%) had a low birth weight. There were 9 perinatal deaths (2 stillborns and 7 intrauterine deaths).

Table 4: Showing perinatal outcome

Perinatal outcome	
Live	27(79%)
Stillborn	2(6%)
Intrauterine death	7(20.5%)
Birth weight(kg)	
1-1.5	2(5.5%)
1.6-2.5	8(22.3%)
2.5-3	20(55.5%)
>3	6(16.7%)

DISCUSSION

The study showed that the hospital-based incidence of eclampsia at RIMS IS 1.91/1000 births.

The findings in our study concur with those in Uttar Pradesh -India, which reported the incidence to be 2.2%[14] The high incidence reflects the nature of perinatal center that serves as a referral center. This high incidence of eclampsia can be reduced by proper antenatal care and admitting and treating patients with mild PIH. Training the Medical Officers working at Peripheral health care centres about immediate management of eclampsia[15] Many referring doctors have little or no experience regarding the management of eclampsia. It is recommended that physicians and nurses referring such cases should consult physicians at the perinatal center before transport. The women should be stabilized regarding blood pressure and control of convulsions before transport and they should be sent in an ambulance with medical personnel in attendance. Tertiary care center should have a back up with facilities to manage critical maternal complications and provide intensive care for the immature infant. Pregnancies complicated by eclampsia are associated with poor maternal and perinatal outcome.

CONCLUSION

There is a need for proper antenatal care to prevent eclampsia and for intensive monitoring of women with eclampsia throughout hospitalization to improve both the maternal and perinatal outcome.

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