Original Article

Maternal Outcome with and without Caesarean Section in Eclampsia

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Abstract

Objectives: To determine the maternal outcome in term of complications and mortality in eclamptic women underwent immediate caesarean sections versus delivery after induction of labour.

Methodology: It was a prospective cohort study and carried out at Lady Aitchison Hospital, Lahore during 6 months from June 2014 November 2014. Obstetric patients with established eclampsia, gestational age >28 weeks and fetus alive on admission were included. Total 60 patients were selected in the study and all the patients divided into 2 groups Group-A; Patients who deliver by immediate LSCS. Group-B: Patients who deliver after induction of labour. Maternal outcome in the term of complications and mortality was compared in both groups.

Results: Mean age of women was 26.26±4.50 years of group A and 27.24±4.18 years of group B without significant difference p-value 0.61. Recurrence of fits in group A occurred in 7(23.3%) patients, while recurrence fits in group B occurred in 15(50%) patients and on further distribution recurrent fits were found significantly associated with antepartum, as compare to intrapartum and postpartum period p-value 0.001. Complications and mortality rate was significantly high in group B patients as compared to Group A, while UTI was equally found in both groups.

Conclusion: We concluded that women those were underwent deliver by immediate LSCS showed better outcome as compared to those who delivered after induction of labour. Early delivery by cesarean section may improve the maternal and perinatal outcome in eclamptic women.

Keywords: Eclampsia, cesarean section, maternal outcome

Cite this article as: Khanum A, Ejaz S, Waheed K, Malik U. Maternal Outcome with and without Caesarean Section in Eclampsia. J. Soc. Obstet. Gynaecol. Pak. 2017; Vol 7(3):149-152.

Introduction

Seizure in pregnancy is frightening for both family members and those who witness it. Seizures in an obstetrical patient unrelated to other cerebral disorders are called eclampsia [1]. Eclampsia is a potentially fatal disorder of pregnancy with significant maternal and fetal morbidity and mortality.[2,3] In Pakistan incidence is 120-220/ 10,000 of deliveries reported with eclampsia and about 50,000 maternal

Authorship Contribution: [1,3]Conceived the idea, Randomization of patients, data collection, [2] Literature review, Reviewed the study, [4]helped in data analysis.

Funding Source: none
Conflict of Interest: none

Received: Mar 04, 2017
Accepted: Aug 24, 2017

deaths annually, in developing countries have maternal mortality rates 100 to 200 times higher than Europe and North America.[4]

Early conventional management of the eclampsia required a conservative approach by using the sedative, tranquilizers, anticonvulsants and anti-hypertensive medicine, followed by caesarean action and induction were reserved to highly selective patients.[5] Now by the advanced anaesthesiology field, caesarean section potential support to maternal and the perinatal outcomes.[6,5]

Maternal complications due to eclampsia are cerebrovascular accidents, permanent CNS damage due to recurrent seizures or intracranial bleed, liver dysfunction, DIC, pulmonary complications, renal failure, septicemia and UTI are more frequent.[7] Around 50% of patients with eclampsia can have transient deficits, including cortical blindness. Underlying factors for eclampsia include inadequate consultant involvement, failure to take prompt action and failure to appreciate the severity of disorders. In women having eclampsia, C- section has been preferred mode of delivery when the cervix is unfavorable and early delivery is unlikely. This practice is based on a recommendation that all women with eclampsia should deliver within 12 hours of admission.[2] However, there is no evidence showing that cesarean section is optimal in terms of maternal and perinatal outcomes. The purpose of this study was to determine the best method for safe delivery in respect of maternal outcome in immediate cesarean section versus induction of labour followed by vaginal delivery or cesarean section in in women with eclampsia.

Methodology

This prospective cohort study was conducted in Lady Aitchison Hospital, Lahore during 6 months from June 2014 November 2014. All the obstetric patients with established eclampsia, age range 20 to 40 years, gestational age more than 28 weeks and fetus alive on admission either parity were included in this study. Women with other obstetrical indications for cesarean section and any cerebral disorder were excluded. Informed consent was taken from husband or their family care takers. A history of patients included in the study was taken regarding the age martial history, detailed obstetrical, gynecological, medical, surgical history, previous history of pre-eclampsia and family history of hypertension and pre-eclampsia and socio-economic history was taken. Blood pressure was recorded in both sitting and lying positions as well as in both arms, also seen for radio-femoral delay. Investigations including blood complete, urine complete examination for proteinuria, renal function tests, liver function tests, coagulation profile and peripheral blood films were done. All the 60 patients were divided into 2 groups Group-A; Patients who deliver by immediate LSCS. Group-B: Patients who deliver after induction of labour. All patients were managed according to the strict protocol for eclampsia. In 30 patients lower segment cesarean section was done, other group of 30 patients were underwent ARM (artificial rupture of membranes) and syntocin on or with prostaglandins.

Results

Total sixty eclamptic patients who presented at Lady Aitchison Hospital were selected. Mean age of women was 26.26±4.50 years of group A and 27.24±4.18 years of group B without significant difference p-value 0.61, While gestational age significantly decreased 34.16±1.48 weeks in group A as compared to 25.85±0.86 weeks in group B p-value 0.01. (Table I)

Table I: Patient's distribution according to age and Gestational age (n=60)

Age	Group-A n=30	Group-B n=30	P-value
Patient's age (Mean+SD)	26.26±4.50	27.24±4.18	0.61
Gestational age (Mean+SD)	34.16±1.48	25.85±0.86	0.01

In Group A 30 patients were delivered by cesarean section without induction. In Group B out of 30 patients after induction of labour 12 patients (40%) deliver by spontaneous vertex delivery and 14(46.6%) underwent cesarean section due to indications including fetal distress, uncontrolled fits and failed induction, while 4(13.3%) underwent instrumental delivery. Recurrence of fits in group A occurred in 7(23.3%) patients, while recurrent fits in group B occurred in 15(50%) patients and on further distribution recurrent fits were found significantly associated with antepartum as compare to intrapartum and the postpartum period in both groups p-value 0.001. Table II and Figure 1.

Maternal outcome was assessed in the term of complications and mortality rate, which was significantly high in group B as compare to Group A, while UTI was equally found in both groups. In group-A: maternal complications were found as; septicemia in 12(40%) of women, UTI in 11(36.6%) patients, pulmonary complication in 10(33.3%), olguria in 4(13.3%), postpartum hemorrhage in 3(10%) patients, cerebrovascular accidents in 2(6.6%) patients and DIC was in 1(3.3%) of women, 2 maternal deaths also found in group A due to cerebrovascular accident and 1due to pulmonary complication. Prolonged antihypertensive therapy (>7 days) required in 16 patients (53.3%).

Maternal complications in group B were found as; septicemia in 21(70%) patients, UTI in 14(46.6%) pulmonary complications in 19(63.3%) of women. Postpartum hemorrhage was found in 6(20%) cases, cerebrovascular accidents in 4(13.3%) renal failure in 4(13.3%) and DIC was noted in 2(6.6%) of women, while 4 maternal deaths occurred, 2 due to cerebrovascular accidents 1 due to DIC and 1 due to renal failure. Prolonged antihypertensive therapy is required in 22 patients (73.3%). Table III

Table II: Recurrence of fits according to antepartum, intrapartum and postpartum (n= 22)

Recurrence of Fits	Group-A (n=7)	Group-B (n=15)	P-value
Antepartum	6(85.7%)	7(46.6%)	0.001
Intepartum	00	3(20.0%)	
Postportum	1(14.2%)	05(33.3%)	

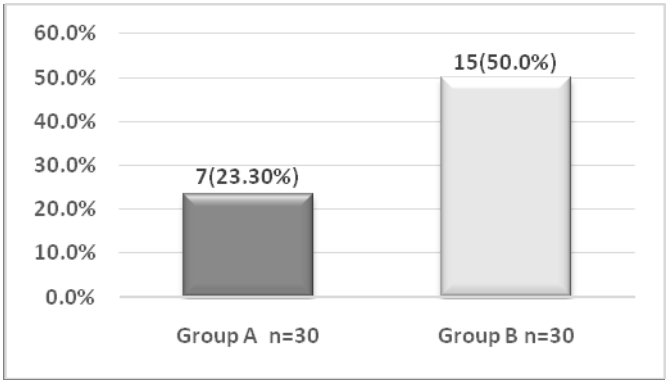

Figure 1. Patients distribution according recurrence of fits (N=60)

Table III: Maternal outcome in both groups (n=60)

Complication	Group A	Group B	
Complication	No. of Patients (%)	No. of Patients (%)	P-Value
UTI	14(46.6%)	14(46.6%)	1.00
Pulmonary Complication	10(33.3%)	19(63.3%)	0.02
Septicaemia	12(40.0%)	21(70.0%)	0.01
PPH	3(10.0%)	6(20.0%)	0.07
CVA	2(6.6%)	4(13.3%)	0.01
Renal Failure	3(10.0%)	4(13.3%)	0.1
DIC	1(3.3%)	2(6.6%)	0.55
Prolonged antihypertensive	16(53.3%)	22(73.3%)	0.02
Death	2(6.6%)	4(13.3%)	0.01

Discussion

Eclampsia remains one of leading cause of maternal and perinatal morbidity and mortality particularly in developing countries where the incidence is still high.[8,9] The high incidence reflects our failure to prevent eclamptic convulsions in a substantial number of pregnant women. Causes responsible for the failure to prevent eclamptic fits can be lack of antenatal care physician error, abrupt or late onset of eclampsia and late delivery. Some factors leading to the lack of antenatal care include ignorance, religious customs, and preference for unattended home deliveries. Previous reports suggested that eclampsia increases fetal and maternal morbidity and mortality whenever there is a delay in treatment. There is an increased incidence of recurrence of fits when delivery is delayed up to six hours or more. Majority of maternal and perinatal complications occurs in group B of patients where induction of labor done and there was delayed delivery for the child.[10] After induction of labour the most common cause of morbidity in our study was pulmonary complications (63.3%) and septicemia (70% which often manifest with fever and urinary tract infection (46.6% pulmonary complications include aspiration pneumonia, pulmonary edema, and acute respiratory distress syndrome. These results also correlate with a study done by Tyabba Waseem in 2004. 90% of eclamptic patients develop at least one complication of eclampsia, study done by Tahseen Ashraf in 2004 shows the results that 90% of eclamptic patients who develop complications are those who presented at least 6 hours after the onset of first eclamptic

convulsion, hence delay in child delivery causes complications, neurological complications were most serious of all eclamptic complication causing maternal mortality.[11,12] Recurrent fits mostly resulting by neurological damage. Neurological complications of eclampsia range from transient neurological deficit such as transient cortical blindness, aphasia, limb weakness, paralysis and psychosis to cerebrovascular accidents with permanent squeal and coma.[13,14] Attalla Khan in 2000 also suggested that early delivery by cesarean section can reduce the risk of recurrence of fits and hence cause neurological damage. Due to delayed delivery of child there is increased the risk of recurrence of fits which lead to cerebral hemorrhage. Muhammad Ashraf concluded that early cesarean results in better maternal and perinatal outcome in eclampsia. A study at AMC Abbottabad concluded that early intervention and delivery by cesarean section without any delay helped much in the reduction of complications of eclampsia as well as maternal mortality. There is 20% less risk of maternal complications in group A as compared to group B. In this study the perinatal mortality in group B is almost double as compare to group A. Some studies give results against this like a study in 2002 published in AJOG gives the results that immediate cesarean delivery confers no benefits to patients with severe pre-eclampsia. Another study in 1999 on low birth weight infants gives the results that induction of labor in cases of severe pre-eclampsia is not harmful to very low birth weight infants. These results seem to be valid in developed countries where facilities of continuous electronic fetal monitoring and good neonatal care are available to each and every unit with one to one monitoring.[15] This is true because mostly the symptoms of eclampsia appear before the start of labour and most of these patients present with poor bishop score and most of the primigravida patients fail to respond to induction. In developing countries like ours, there are certain deficiencies including transport problems, uncertainty about smooth availability of medicines like injectable antihypertensive and magnesium sulphate.

Conclusion

We concluded that patients with cesarean section had a better outcome as compared to without cesarean section. Eclampsia remains a continuing problem in developing countries, however, an improvement in antenatal care, early delivery by cesarean section and upgrading neonatal facilities can improve the maternal as well as the perinatal outcome.

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