

Comparison between Vaginal Delivery and Caesarean Section in Preeclampsia at Tertiary Care Hospital in Egypt

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Abstract: Introduction: Preeclampsia is a Pregnancy Induced Hypertension (PIH) of unknown etiology. PIH causes intra uterine growth retardation (IUGR), pre-mature delivery, intra uterine fetal death, (IUFD), abruption placentae. It also causes increase morbidity and mortality among pregnant women. The cause for (PET) is unknown, there appear to be certain risk factors associated with the condition. The factors that have been postulated to influence the risk of (PET) among the mothers include diabetes, obesity, multiple gestation, primiparity, age, personal or family history of (PET), and chronic hypertension **Methods:** Retrospective study at Aswan University Hospital from January 1/2013 to December 31/2013. Pateint diagnosed by (systolic blood pressure 160 or more and/or diastolic blood pressure 110 or more in two occasion four hours apart in semi setting position plus 24hrs protein collection in urine 5 gram or more). **Results:** 152 were delivered by caesarean section (CS) with incidence (64.95%) and 82 patients terminated by vaginal delivery (VD) with incidence 35.04% PET was more common in the age group 21-30 years 99 cases with incidence (42.3%) and less common in the age group >37 years 23 cases with incidence (9.82%) prematurity 35 cases in CS delivery with incidence (23.02%) versus 16 cases in VD with incidence (19.51%) accidental haemorrhage cases 2 in CS with incidence (1.31%) versus 2cases in VD with incidence (2.43 %), acute renal failure 2 cases in VD with incidence (2.43 %). **Conclusion:** PET increases the incidence of CS rate to prevent maternal complications of PET and ET. CS if done promptly leads to more favourable outcome than conservative obstetric management with vaginal delivery in sever PET especially in PG after 28 weeks. Termination of pregnancy by CS reduces maternal morbidity improves maternal outcome by reducing complications.

[Laila Ezzat. **Comparison between Vaginal Delivery and Caesarean Section in Preeclampsia at Tertiary Care Hospital in Egypt.** *Cancer Biology* 2018;8(3):56-59]. ISSN: 2150-1041 (print); ISSN: 2150-105X (online). <http://www.cancerbio.net>. 10. doi:[10.7537/marscbj080318.10](https://doi.org/10.7537/marscbj080318.10).

Key Words: Preeclampsia, caesarean section, vaginal delivery, Outcome and complications.

1. Introduction

Preeclampsia is a Pregnancy Induced Hypertension (PIH) of unknown etiology. Preeclampsia (PET), can be quite serious as it can lead to various complications both for the mother and the baby [1] PET and eclampsia, sever forms of PIH, are the leading cause of infant and maternal mortality (1).

It has been estimated that five to seven percent of pregnancies are affected by (PET) (2). PIH causes intra uterine growth retardation (IUGR), pre-mature delivery, intra uterine fetal death, (IUFD), abruption placentae. It also causes increase morbidity and mortality among pregnant women (3).

Authors documented that women with PIH were likely to give birth to low birth weight babies than women without PIH (4).

The cause for (PET) is unknown, there appear to be certain risk factors associated with the condition. The factors that have been postulated to influence the risk of (PET) among the mothers include diabetes, obesity, multiple gestation, primiparity, age, personal or family history of (PET), and chronic hypertension (5).

PE T and eclampsia is essentially a disease of the poor and of the primigravidae (PG), a product of ignorance and neglect (6).

As regard prevention and management of eclampsia includes early detection of (PET) severe (PET) and use of magnesium sulphate (MgSO₄) to prevent eclampsia. The early management of eclampsia may reduce the severity of maternal and perinatal complications. As regard treatment of the eclampsia, main goal of the treatment is to stop convulsion, to control the blood pressure, to deliver the baby as promptly as possible, and to monitor closely for the onset of multi-organ failure. (MgSO₄) acts as a neuroprotective and anticonvulsant medication (6).

The aim of the present study is to ascertain if caesarean section has any distinct advantage over vaginal delivery in lowering perinatal and maternal morbidity and mortality.

2. Material and Methods

A list of patients that had severe preeclampsia admitted at Department of Obstetrics and Gynaecology, Aswan University Hospital from

January 1/2013 to December 31/2013. Diagnosed by (systolic blood pressure 160 or more and/or diastolic blood pressure 110 or more in two occasion four hours apart in semi setting position plus 24hrs protein collection in urine 5 gram or more). The case notes was retrieved from the medical records department in the form of data relating to the age, parity, gestational age, method of termination, perinatal outcomes, and related maternal complications.

The participants were induced, allowed to undergo spontaneous labour or underwent caesarean delivery depending on the obstetric indications and patients general condition.

The data was entered in the computer for statistical analysis using one proprietary statistical package which is Statistical Packages for the Social Science (SPSS).

3. Results

Table 1: Incidence of PET

Total delivery	Number of PET	Incidence
4284	234	5.46%

Table (2): Method of termination.

Method of termination	Number	Incidence
VD	82	35.04%
CS	152	64.95%
Total	234	100%

Table (3): Patients clinical profile

Age	Cases CS	%	Cases VD	%	Total	%
≤20	45	29.6%	22	26.82%	67	28.63%
21-30	68	44.73%	31	37.8%	99	42.3%
31-37	30	19.73%	15	18.29%	45	19.23%
>37	9	5.92%	14	17.07%	23	9.82%

Table (4): Patients clinical profile

Gestational age	CS		VD		Total
	Cases	%	Cases	%	
≤30 Wk	47	30.92%	11	13.41%	58 (24.78%)
30-37 Wk	72	47.36%	27	32.92%	99(42.3%)
≥37 Wk	33	21.71%	44	53.65%	77(32.9%)

Table (5): Fetal complications

Complication	CS	%	VD	%	Total
Prematurity	35	23.02%	16	19.51%	51 (24.35%)
IUFD	7	4.6%	6	7.31%	13 (5.55%)

Table (6): Maternal complications

Complication	CS	%	VD	%	Total
Accidental hemorrhage	2	1.31%	2	2.43 %	4 (1.70%)
Acute renal failure	0	0	2	2.43 %	2(0.85%)
Eclamptic fits	6	3.93%	9	10.97 %	15(6.41%)
HELLP \$	0	0	1	1.21%	1(0.42%)

There were 4284 deliveries during that period. Among them 234 patients with preeclampsia with incidence 5.46 %, (Table 1).

About the methods of termination 152 were delivered by caesarean section (CS) with incidence (64.95%) and 82 patients terminated by vaginal delivery (VD) with incidence 35.04% (Table 2).

As regard clinical characteristics of cases. PET was more common in the age group 21-30 years 99 cases with incidence (42.3%) and less common in the age group >37 years 23 cases with incidence (9.82%) (Table 3).

About fetal complications prematurity 35 cases in CS delivery with incidence (23.02%) versus 16

cases in VD with incidence (19.51%), intra uterine fetal death (IUFD) 7 cases in CS represent (4.6%) versus 6 cases in VD with incidence (7.31%) (Table 5).

As regard maternal complications accidental haemorrhage cases 2 in CS with incidence (1.31%) versus 2 cases in VD with incidence (2.43 %), acute renal failure 2 cases in VD with incidence (2.43 %), eclamptic fits 6 cases in CS with incidence (3.93%) versus 9 cases in VD with incidence (10.97 %) and HELLP syndrome 1 case in VD with incidence (1.21%) (Table6).

4. Discussion

In the present study, the incidence of PET was 5.46% (234/4289) of all deliveries. This incidence is low in relation to other countries as South Africa where the incidence of PET 11.5% of all deliveries (1.329/11.585) [7]. Also it is high incidence in comparison to Iran which were 262 pregnant women with PET out of 20520 deliveries which represent 1.27% [8].

Terefe W et al noted that the incidence of PIH were 3.9%. They noted that over the years from 2011 to 2014, the incidence increased from 1.8% to 5.7 % (9).

In our study maximum number of cases i.e. (42.3%) in both CS and VD are in the age group of 21-30 years in comparison to Niharand Jaiminkumar (10) who found that maximum number of cases i.e. 53% in both the groups are in the age group of 21-25 years.

In this study The highest incidence of PET was found between 30-37 WK gestation with incidence (42.3%) this results are less than Nihar and Jaiminkumar (9) who found that the highest incidence between 37-40 weeks of gestation the incidence (60.50%).

In this study incidence of prematurity were (24.35%) totally in both groups this incidence is lower than other author who found that.

The incidence of pre-term delivery was 70% among PIH group compared to only 16.7% in normotensive group and this difference was found to be statistically significant (11).

Also Adu-Bonsaffoh K et al found that hypertensive disorder of pregnancy was associated with many complications. They noted that 21.7% of the cases were pre-term and the incidence of still birth was 6.8% (12).

This results is higher than the present study that the incidence of IUFD were (5.55%). Also they found the incidence of acute renal failure was 0.5%. The incidence of and the incidence of eclampsia was 15.8%, in comparison to this study the incidence of acute renal failure was (0.85%) and the incidence of

eclampsia was (6.41%) which is lower than the other authors.

5. Conclusion:

There is a high incidence of sever preeclampsia at department of Obstetrics and Gynaecology, Aswan University Hospital PET increases the incidence of CS rate to prevent maternal complications of PET and ET.CS if done promptly leads to more favourable outcome than conservative obstetric management with vaginal delivery in sever PET especially in PG after 28 weeks gestation with unfavourable cervix on admission.

“Caesarean section should be done at the optimum time and not as a last resort when conservative management has failed to prevent sever PET complications as eclampsia. Termination of pregnancy by CS reduces maternal morbidity improves maternal outcome by reducing complications.

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9/10/2018