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

Laila Ezzat

Department of Obstetrics and Gynecology, Faculty of Medicine, Aswan University, Aswan, Egypt

[lailaezzat972000@gmail.com](mailto:lailaezzat972000@gmail.com)

**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](http://www.dx.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%) versus16 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 2cases 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 was5.46% (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 that21.7% 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.

**References**

1. Kumars S. G., Anesh Bunnikrish Nan, k. Nagara j. And s. Jayaram: Determinants of preeclampsia: A case control study in a district hospital in South India. Indian journal of community medicine. Oct-Dec.35 (4): 502-5, 2010.
2. Srinivas SK, Edlow AG, Neff PM, Sammel MD, Andrela CM et al. Rethinking IUGR in preeclampsia: dependent or independent of maternal hypertension? J Perinatol 2009; 29(10):680-4.
3. Anand S, Anand K, Perinatal Outcome in Growth Retarted Babies Born to Normotensive and Hypertensive Mothers: A Prospective Study. People’s J Sci Res. 2012; 5(1):24-8.
4. Rahman LA, Hairi NN, Salleh N. Association between Pregnancy Induced Hypertension and Low Birth Weight; A Population Based Case-Control Study. Asia Pac J Public Health. 2008; 20(2):152-8.
5. Duck Itt K. and Harringt D.: Risk factors for preeclampsia at antenatal booking: Systematic review of controlled studies-B.M.J., 330: 565, 198, 2005.
6. Priti Kumari, Sipra Singh, Salma Khatun, Shashikar. Comparative study of vaginal delivery and caesarean section in antepartum eclampsia at tertiary care hospital *Int J Reprod Contracept Obstet Gynecol. 2017 Feb;6(2):457-460.*
7. Anneliesimmin k., siccoscherion, ronwolterbeek and D. Wilhelm Steyn: Seasonal influence on the admittance of preeclampsia patients in Tygerberg hospital informa health care, Vol. 87, No. 1, pages 36-42, 2008.
8. Royan Nasiri, Akram Ahmadi Shadmehri, Peyman Khajeh Gbiassi, Mohammad Sarafraz Yazdi and Morteza Mazloum Farsi Bafi: Association of meteorological factors and seasonality with preeclampsia a 5 year study in north east of Iran informa health care posted on line on March 28, 2014.
9. Terefe W, Getachew Y, Hiruve A, Derbew M, Mariam DH, Mammo D et al. Patterns of hypertensive disorders of pregnancy and associated factors at debreberhan referral hospital, north shoa, amhara region. Ethiop Med J. 2015; 2:57-65.
10. Nihar Ranjan Behera, Jaiminkumar Patel\*Maternal outcome in antepartum eclampsia caesarean versus vaginal delivery *Int J Reprod Contracept Obstet Gynecol. 2018 Apr;7(4):1330-1335.*
11. K. Hima Bindu\*, E. Rama Devi Effect of pregnancy induced hypertension on pregnancy outcome: a hospital based cross sectional study at a tertiary care hospital *Int J Reprod Contracept Obstet Gynecol. 2018 May;7(5):1984-1987.*
12. Adu-Bonsaffoh K, Ntumy MY, Obed SA, Seffah JD. Perinatal outcomes of hypertensive disorders inpregnancy at a tertiary hospital in Ghana. BMC Pregnancy Childbirth 2017; 17(1):388.

9/10/2018