

# Fetal Outcome in Patients with Pre-Eclampsia at Ayub Teaching Hospital Abbottabad

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## ABSTRACT

**Aim:** To determine the frequency of fetal outcome in patients presented with pre-eclampsia.

**Study design:** Descriptive cross-sectional study

**Place and duration of study:** Department of Obstetrics & Gynecology, Ayub Teaching Hospital Abbottabad from 4<sup>th</sup> May 2020 to 4<sup>th</sup> November 2020.

**Methodology:** One hundred and twenty six pre-eclamptic patients aged 18-45 years having gestational age more than 20 weeks were enrolled. Detailed demographics were recorded after taking informed written consent. Fetal outcomes were examined. Data was analysed by SPSS 22.0.

**Results:** Mean age of patients was 27.48±5.618 years with mean gestational age of 35.056±2.9554 ranging from 31.2 to 41.1 weeks. Mean systolic blood pressure was 151.98±8.85 and mean diastolic blood pressure was 96.90±4.64. Mean proteinuria was 170.56±105.92. The frequency of preterm birth was 26 (20.6%), LBW was found in 52.4% patients, IUGR was found in 25.4%, birth asphyxia was found in 19% patients and still birth was found in 16.7%.

**Conclusion:** Pre-eclampsia can lead to major fetal and maternal complications. We found in our study that low birth weight, preterm birth and IUGR were the most common adverse fetal outcomes.

**Keywords:** Fetal outcome, Birth asphyxia, Stillbirth, Preterm birth, Low birth weight, Pre-eclampsia

## INTRODUCTION

Pre-eclampsia is defined as novel hypertension onset as well as proteinuria post 20 weeks of gestation in women who were previously reported as normotensive.<sup>1</sup> Pre-eclampsia has been reported as major reason for maternal related morbidities as well as mortality<sup>2</sup>. Pre-eclampsia is presented with a prevalence of 2-8%. There has also been greater chance of complication related during pregnancy. There is augmented risk of placental abruption, eclampsia in addition to hemolysis raised liver enzymes decreased platelets [HELLP] syndrome<sup>3</sup>.

The outcomes of preeclampsia as well as eclampsia are multiple organ failure. Loss of conscious activity and life threat to mother and child has been serious concerns in these cases.<sup>4,5</sup> There is also a high risk of complication in newborns with LBW as well as still birth risk. Intrauterine death or preterm delivery and decreased APGAR score, have also been reported in addition to the birth asphyxia or cases of abortion.<sup>1</sup>

Nandonde et al<sup>6</sup> have showed that the frequency of fetal mortality was 23.2%, birth asphyxia 21.2% and low birth weight was 48.4%. In another study conducted in India a result of fifty patients was observed. Majority of these such as 56% patients were transferred while 80% belonging to same age group were reported. Their age was between 20-30 years. Primi gravida was presented in 58% of the patients and there was an high incidence as 70% of the PPH as well as placental tearing in 4%. HELLP syndrome was presented in 6% of the pregnant mothers. The rate of complication regarding fetus were also presented high specifically the LBW incidence was seen in 60% of the cases and preterm delivery in 20% of cases. Intra uterine-fetal death (IUFD) in 16% of the cases was also seen. There were 3 such cases reported where alteration in Doppler scan was seen while 3 newborn had to be ventilated due to their hypoxiccondition<sup>7</sup>.

There is a significant reduction in restriction of eclampsia and other complications of pre-eclampsia in developed countries but in our country it is a significant

cause of perinatal mortality and maternal morbidity due to lack of access to hospital care, lack of resources, inappropriate diagnosis and poor management. Overcoming the prevailing challenges in the control of pre-eclampsia in developing countries hinges on the ability of health care systems to identify and manage women at high risk<sup>8,9</sup>.

The purpose of this is to highlight the outcomes of pregnancy in patients presenting with pre-eclampsia which will help gauge the importance of timely management of hypertensive disorders in pregnant women to prevent fetal mortality and morbidity.

## MATERIALS AND METHODS

This descriptive cross-sectional study was conducted in the Department of Obstetrics and Gynecology, Ayub Teaching Hospital Abbottabad from 4<sup>th</sup> May 2020 to 4<sup>th</sup> November 2020 and 126 patients were enrolled. Patients aged 18-45 years with pre-eclampsia seeking obstetric care and gestational age more than 20 weeks were included. Patients with pre-eclampsia with previously known cardiac or hepatic impairment (secondary to chronic liver disease), history of trauma, previously known epilepsy (identified on history) and previously known hematological disorders (hemolytic anemia) were excluded. Those suffering with hypertension >140/90mmHg were requested to get their urine examination and complete blood count with peripheral smear. Identification of pre-eclamptic patient was made on presence of >1+ proteinuria along with hypertension. Demographic details of these patients including age, gestational age, parity, gravidity and contact number was recorded. History of trauma, previous medical illness including cardiac, hepatic impairment and epilepsy was recorded. Patients with history of seizures or history of PV bleeding with above findings were admitted. Liver function tests were requested for those patients who had hemoglobin of less than 10gm/dl and platelets <100,000/ml to identify patients with HELLP syndrome and these patients were admitted as well. Pre-eclamptic patients in the absence of complications (eclampsia, placental abruption and HELLP syndrome) were followed fortnightly in the OPD. Any of these patients developing the above complications were admitted and recorded. The patients who delivered in Ayub Teaching Hospital, their indication of delivery, history of PV bleeding, eclampsia and HELLP were taken into account with 6

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weeks follow-up. All the data was recorded. Data was entered and analyzed with SPSS-22.

**RESULTS**

The mean age was 27.48±5.61years with mean gestational age of 35.05±2.95 weeks. Mean systolic blood pressure was 151.98±8.88 mmHg and mean diastolic blood pressure was 96.9048±4.64 mmHg. Mean proteinuria was 170.56±105.92 (Table 1). According to fetal outcome, birth asphyxia in 24 (19%), stillbirth 21 (16.7%), low birth weight in 66 (52.4%), preterm birth in 26 (20.6%) and intrauterine growth restriction in 32 (25.4%) respectively (Table 2).

Table1: Descriptive statistics of the patients (n=126)

Variable	Mean±SD
Age (years)	27.48±5.61
Gestational age (weeks)	35.05±2.955
Systolic blood press (mmHg)	151.98±8.85
Diastolic blood pressure (mmHg)	96.90±4.64
Proteinuria	170.56±105.69

Table 2: Frequency of fetal outcome in patients with pre-eclampsia (n=126)

Variable	Yes	No
Birth Asphyxia	24 (19%)	102 (81%)
Stillbirth	21 (16.7%)	105 (83.3%)
Low birth weight	66 (52.4%)	60 (47.6%)
Preterm birth	26 (20.6%)	100 (79.4%)
Intrauterine growth restriction	32 (25.4%)	94 (74.6%)

**DISCUSSION**

Hypertension has been reported as one of the major causes for mortality as well as morbidity of the mother and child during pregnancy. It affects about 3% of the total population of pregnant women. In some studies, the prevalence has been reported as high as 10%<sup>10,11</sup>. Pre-eclampsia is termed as hypertension related with gestational period. It is a new initiation of hypertension during pregnancy. It is accompanied by proteinuria formation as well as edema<sup>12</sup>. This study shows the mean age of the patients was 27.48±5.61 ranging from 16 to 45 years of age with mean gestational age of 35.05±2.95 ranging from 31.2 to 41.1 weeks. Mean systolic blood pressure was 151.98±8.85 and mean diastolic blood pressure was 96.90±4.64. These results were comparable to Devi et al<sup>7</sup>.

In the present study, the frequency of still birth in 21(16.7%) and 105(83.3%) found with other complications in fetal outcome while in low birth weight in 66(52.4%) and 60(47.6%) found with other complications in fetal outcome. Almost same results were reported by Devi et al<sup>7</sup>.

This study showed, the frequency of preterm birth in 26(20.6%) found and 100(79.4%) found with other complications in fetal outcome while intrauterine growth restriction, there were 32 (25.4%) had intrauterine growth restriction and 94(74.6%) found with other complications in fetal outcome and the results were comparable to Minire et al<sup>3</sup>.

Pre eclampsia definition was the definition of pre-eclampsia was reviewed and reread in year 2014. This definition includes development of hypertension with proteinuria formation and the dysfunction of maternal-organs which specifically includes renal dysfunction as well as liver, blood and neurological dysfunction. There is fetal growth restriction been noticed in the cases. The proteinuria formation is not a mandatory part of the recently revised definition of preeclampsia<sup>11,13</sup>.

There have been many cases where despite of severe pre-eclampsia formation the pregnant female may still be asymptomatic. Douglas and Redman<sup>14</sup> elaborated that there were 38% those women where no hypertension as well as proteinuria was observed although the cases were pre-eclampsia. There have been serious maternal hostile proceedings have been reported in such cases therefore requiring the application of proper definition consideration. Unrecognized fetal-compromise pays to the constraint of fetal-demise, and one in twenty stillbirths without the congenital anomaly is intricate by attributable to pre-eclampsia<sup>15</sup>.

**CONCLUSION**

The most common fetal outcome in pre-eclampsia was found to be low birth weight followed by IUGR. There is a requirement of appropriate and consistent check-up for the identification of pre-eclampsia especially in the initial staging. Continual assessments as well as monitoring with intensified care may assist in well-timed delivery and improved mother and child health outcomes. A continuous monitoring for blood pressure is the main detection and prevention against preeclampsia and its related complications.

**Conflict of interest:** Nothing to declare

**REFERENCES**

- Gabbe SG. Obstetrics: normal and problem pregnancies. 6<sup>th</sup> ed. Philadelphia: Saunders, Elsevier, 2012.
- Ghulmiyyah L, Sibai B. Maternal mortality from preeclampsia/eclampsia. *Semin Perinatal* 2012;36(1):56-9.
- Minire A, Mirton M, Imri V, Lauren M, Aferdita M. Maternal complications of pre-eclampsia. *Med Arch* 2013;67(5):339-41.
- Cunningham FG, Leveno JK, Bloom SL. *Williams obstetrics*. 24<sup>th</sup> ed. New York: McGraw-Hill, 2014.
- Liabsuetrakul T, Thida T. Geographical distribution of hypertensive disorders in pregnancy and their adverse maternal and perinatal outcomes in Thailand. *Int J Pregnancy Childbirth* 2017;2(2):42-3.
- Nandonde K, Matcvelo D, Massinde A, Rumanyika R. Predictors of fetomaternal outcome of patients with abruptio placenta at Bugando Medical Centre, Tanzania. *Tanzan J Health Res* 2016; 18(1):1-10.
- Devi SA, Chandana MP, Sailakshmi MPA. Maternal and perinatal outcome in severe pre-eclampsia and eclampsia in Rajarajeswari Medical College, Bangalore. *Int J Sci Stud* 2019;7(1):19-21.
- Osungbade KO, Ige OK. Public health perspectives of preeclampsia in developing countries: implication for health system strengthening. *J Pregnancy* 2011;2011:481095.
- Kayabasoglu F, Guzin K, Aydogdu S. Emergency peripartum hysterectomy in a tertiary Istanbul hospital. *Arch Gynecol Obstet* 2008;278: 251-6.
- Patabendige M, Jayawardane A. Foley catheter for cervical priming in induction of labour at University Obstetrics Unit, Colombo, Sri Lanka: a clinical audit with a patient satisfaction survey. *BMC Res Notes* 2017;10:155.
- Craig UA, Matthew MD, Jalpa DA, Rajender A, Kendal W, Patrick BJ. Estimating the proportion of healthcare-associated infections that are reasonably preventable and the related mortality and costs. *Infect Control Hospital Epidemiol* 2014;32 (2):101-4.
- Aaronson D, Harlev A, Sheiner E, Levy A. Trial of labor after cesarean section in twin pregnancies: maternal and neonatal safety. *J Matern Fetal Neonatal Med* 2010;23(6):550-4.
- Hurrell A, Duhig K, Vandermolen B, Shennan AH. Recent advances in the diagnosis and management of pre-eclampsia. *Fac Rev* 2020; 9: 10.
- Douglas KA, Redman CW. Eclampsia in the United Kingdom. *BMJ* 1994; 309(6966):1395-400.
- Centre for Maternal and Child Enquiries (CMACE). *Perinatal mortality 2008*. United Kingdom: Centre for Maternal and Child Enquiries; 2010.