ORIGINAL ARTICLE

Complications of Pregnancy with Pre-Eclampsia: A Hospital-Based Study

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Abstract

Objectives: To present a detailed analysis of the maternal and fetal complications connected to preeclampsia in admitted patients.

Methodology: A cross-sectional study was conducted on 75 women identified as having pre-eclampsia according to the ISSHP 2021 criteria. The maternal morbidities (Eclampsia, HELLP Syndrome) and fetal prognosis i.e. (preterm labour and intrauterine growth restriction) are recorded during last 04 years in Chattha Hospital, Sialkot.

Results: Of the studied pregnancies with pre-eclampsia, over half (53%) of the patients were between 20 and 30 years of age. The condition was most frequently diagnosed at a moderate to severe stage, with 50% of patients having a systolic blood pressure ranging from 140-159 mmHg and 46% having +2 proteinuria. A significant majority (71%) of cases were diagnosed at a later gestational age, between 30 to 34 weeks.

Conclusion: Pre-eclampsia continues to be a significant issue for both mothers and babies.

Keywords: Pre-eclampsia, Maternal mortality, Eclampsia, HELLP syndrome, Maternal morbidity, Perinatal outcomes.

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Introduction

Pre-eclampsia is classified as a complex, multisystem disorder clinically identified by the sudden onset of hypertension—defined as a systolic blood pressure, more than 140 mmHg and/or a diastolic blood pressure more than 90 mmHg occurring after 20 weeks of gestation in the previously normotensive women. [1]

Historically, diagnosis strictly required the presence of proteinuria. However, revised guidelines from the American College of Obstetricians & Gynecologists (ACOG) have omitted proteinuria as an absolute diagnostic prerequisite. Despite these evolving diagnostic criteria, pre-eclampsia continues to be a leading driver of maternal morbidity and mortality worldwide.[2]

A significant proportion of pregnant individuals experience a progression of standard gestational symptoms during second and third trimesires. Yet the source of its troubles lie much further back in pregnancy. This could be explained as a failure of the cytotrophoblast to adequately remodel the spiral arteries, meaning that the placenta is not being perfused well (leading to placental ischemia), which leads to fetal growth retardation. This causes severe and widespread endothelial injury due to factors produced as a response to the ischemic placenta, from the maternal side. Many of the signs and complications seen in preeclampsia are due to this kind of injury. Key complications include hypertension, proteinuria, renal and hepatic impairment, thrombocytopenia, and abdominal pain. Additionally, this spectrum includes HELLP syndrome, which is defined by the triad of hemolysis, elevated liver enzymes, and thrombocytopenia.[3]

Diagnosis, evaluation and treatment of the hypertensive disorders of pregnancy (HDP) are necessary.[3]

Current estimation of women suffering from this condition shows that it affects 3 to 9 percent of all pregnancies across the world.

A whooping number approximately 70000 women lost their lives due to this condition. These numbers have become even more alarming while looking into the developing countries.[4]

In Pakistan, pre-eclampsia rates jump to 10-16 percent of pregnancies - nearly double the global average. This drastic increase stems from multiple factors against mothers: inadequate prenatal care, limited health education, and higher rates of underlying health conditions.

Objectives:

To present a detailed analysis of the maternal and fetal complications connected to preeclampsia in admitted patients.

Methodology

Study Design and Setting: A cross-sectional study was conducted on 75 women identified as having pre-eclampsia according to the ISSHP 2021 criteria. The maternal morbidities (Eclampsia, HELLP Syndrome) and fetal prognosis i.e. (preterm labour and intrauterine growth restriction) are recorded in Chattha Hospital, Sialkot in the last 04 years.

75 patients diagnosed with pre-eclampsia were included after obtaining informed consent with the following:

Diagnosis criteria was:

- Systolic BP ≥140 mmHg diastolic BP ≥90 mmHg
- Proteinuria ≥300 mg/24 hours
- Onset after 20 weeks of gestation in previously normotensive women

Inclusion criteria:

- Singleton pregnancy
- Gestational age of ≥20 weeks

Exclusion criteria:

- Chronic hypertension
- Multiple pregnancies
- Renal or cardiovascular disease
- Refuse for consent giving

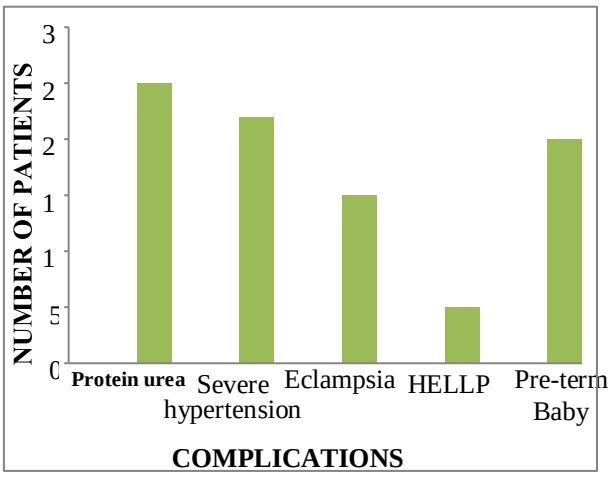
Statistical analyses were conducted utilizing IBM SPSS software. Variable characteristics were summarized using descriptive statistics, with findings illustrated through corresponding tables and pie charts. Statistical significance was established at a threshold of $p < 0.05$.

Results

Maternal Age Distribution of Pre-eclampsia

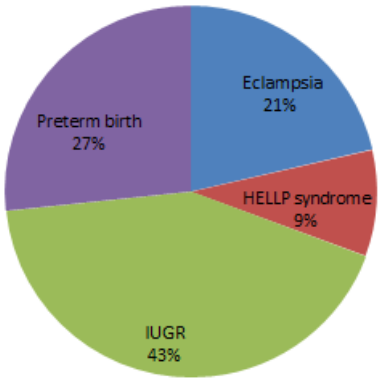
Age (years)	No of patients n=75	Percentage
<20	10	13%
20_30	40	53%
>30	25	33%

Simple Bar Chart of Pre-eclampsia Complications



HELLP (Hemolysis, Elevated Liver enzymes, and Low Platelets)

Complications Distribution



Discussion

Preeclampsia represents a severe gestational complication characterized by intricate molecular and cellular mechanisms that compromise both maternal and fetal well-being. Emerging evidence implicates fetal microchimerism in its underlying pathophysiology. Under the framework of the two-stage model, fetal microchimerism is concepttualized as a critical mechanistic link bridging initial placental dysfunction with subsequent maternal cardiovascular complications. Medical comorbidities are associated fewer maternal complications, but worse neonatal outcomes.[5]

Liver involvement denotes severe preeclampsia or HELLP syndrome, both of which are associated with substantial perinatal morbidity and mortality. Long-term, cardiovascular disease emerges as a primary maternal threat, particularly among patients with early-onset presentations. This highlights a pressing need for postpartum health promotion interventions. At present, a critical knowledge gap persists regarding optimal protocols to prevent these chronic, long-term complications.[6]

Risk factors for the development of preeclampsia have been studied extensively. Major risk factors are a history of preeclampsia, chronic hypertension, pregestational diabetes mellitus, antiphospholipid syndrome, and obesity.[6]

Accessible health education and medical care, and awareness of prenatal control for all women will help in the primary recognition of severe pre-eclampsia.[7]

The high prevalence of pre-eclampsia in the community is alarming, significantly increasing the risk of adverse outcomes for infant health and well-being. There is a critical need to educate women about the signs and symptoms of pre-eclampsia.[8]

Concomitant supplementation with vitamin C and vitamin E does not prevent pre-eclampsia in women at risk, but does increase the rate of babies born with a low birthweight. As such, use of these high-dose antioxidants is not justified in pregnancy.[9,10]

Conclusion:

Although the relative risk of adverse events is more pronounced in preterm compared to term preeclampsia, the absolute burden of maternal adverse events is at least equivalent in term disease, which also accounts for a substantial proportion of total perinatal complications.

Reference

1. Brown MA, Magee LA, Kenny LC, Karumanchi SA, McCarthy FP, Saito S, Hall DR, Warren CE, Adoyi G, Ishaku S. Hypertensive disorders of pregnancy: ISSHP classification, diagnosis, and management recommendations for international practice. Hypertension. 2018 Jul;72(1):24-43.
2. Poston L, O'Brien S, Masson P, Duley L. Preeclampsia. Lancet. 2023; 401 (10 378):1890-908.
3. Magee LA, Pels A, Helewa M, Rey E, von Dadelszen P, Audibert F, Bujold E, Côté AM, Douglas MJ, Eastabrook G, Firoz T. Diagnosis, evaluation, and management of the hypertensive disorders of pregnancy: executive summary. Journal of Obstetrics and Gynaecology Canada. 2014 May 1;36(5):416-38.
4. Sibai BM. Diagnosis and management of gestational hypertension and preeclampsia. Obstet Gynecol. 2003; 102 (1): 181-92.
5. Brown MA, Magee LA, Kenny LC, Karumanchi SA, McCarthy FP, Saito S, et al. Hypertensive disorders of pregnancy: ISSHP classification, diagnosis, and management recommendations for the international practice. Hypertension. 2018 ; 72(1):24-43.
6. Rana S, Lemoine E, Granger JP, Karumanchi SA. Preeclampsia: patho-physiology, challenges, and persp-ectives. Circulation research. 2019 Mar 29; 124 (7) :1094-112.
7. Ahmed S, Shafi M, Awan A, Khan M, Bhutto S, Zameer N. Common feto-maternal outcomes among women with severe preeclampsia: a prospective cohort study. Journal of Saidu Medical College. 2025 Nov 4;15(4):662-8.

8. Jabeen M, Gul F, Javed N, Asif A. Feto-maternal outcome in patients with severe pre-eclampsia. J Coll Physicians Surg Pak. 2011;21(12):749-52.
9. Naz MK, Yousaf RT, Shaikh AG, Khattak SN, Hassan S. Fetal Outcome in Women of Pre-Eclampsia. Journal of Health and Rehabilitation Research. 2024 Jan 8; 4 (1):28-31.
10. Poston L, Briley AL, Seed PT, Kelly FJ, Shennan AH. Vitamin C and vitamin E in pregnant women at risk for pre-eclampsia (VIP trial): randomised placebo-controlled trial. The Lancet. 2006 Apr 8;367(9517):1145-54.