

# Maternal and Perinatal Outcome in Patients with HELLP Syndrome

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## Abstract

HELLP syndrome (haemolysis, elevated liver enzymes, and low platelets) is a component of hypertensive disorders of pregnancy which is associated with significant maternal as well as perinatal morbidity and mortality. Maternal mortality is due to consequences such as pulmonary oedema, renal failure, disseminated intravascular coagulation and subcapsular liver hematoma. Perinatal mortality appears to be primarily related to the gestational age at the time of delivery. This study evaluates the maternal and perinatal outcome in HELLP syndrome so that the management is improved resulting in reduced mortality and morbidity. Objectives: A. To study maternal outcome in patients diagnosed with HELLP syndrome. B. To study perinatal outcome in patients with HELLP syndrome.

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**Index terms**— HELLP syndrome, maternal and perinatal outcome.

## 1 Introduction

Every woman wishes to have a healthy pregnancy which culminates in a healthy baby and a healthy mother. Unfortunately, some women develop dreaded complications that may result in adverse obstetric outcomes. These include Hypertensive disorders of pregnancy, Pre-eclampsia, Eclampsia and HELLP syndrome [1]. Pre-eclampsia occurs in 5-10% of pregnancies [2]. The HELLP syndrome (haemolysis, elevated liver enzymes, and low platelets) is a variant of severe pre-eclampsia that is associated with significant maternal and perinatal morbidity and mortality [3]. HELLP syndrome develops in 6-12% of women with preeclampsia or eclampsia accounting for 0.4-0.7% of all pregnancies [4]. Maternal mortality is due to consequences such as pulmonary oedema, renal failure, disseminated intravascular coagulation and subcapsular liver hematoma [5]. Perinatal mortality appears to be primarily related to the Maternal and Perinatal Outcome in Patients with HELLP Syndrome gestational age at the time of delivery [6]. HELLP syndrome is regarded as high risk for the mother and neonate compared to pre-eclampsia. Early diagnosis and identification of complication of HELLP syndrome and timely intervention form the main strategy of management. [7] II.

## 2 Aims and Objectives of the

## 3 Methodology

This was prospective observational study done over a period of 24 months i.e., Nov. 2015 to Oct. 2017. Total 56 cases of HELLP syndrome were studied. This study was conducted in department of obstetrics and gynaecology of medical college and tertiary health care centre

## 4 a) Inclusion Criteria

? All antenatal patients with pre-eclampsia and eclampsia complicated with HELLP syndrome.

## 5 b) Exclusion Criteria

? All patients with chronic hypertension IV.

## 6 Results

The following data was obtained from the present series of 56 cases studied at tertiary care hospital, in department of obstetrics and gynaecology from 30th November, 2015 to 31st October, 2017. 2).

## 7 Table 3: No. of cases according to parity

In present study 58.93% were primigravidae, while 41.07% of patients were multiparous (Table ??). In our study 24 (42.85%) cases of HELLP syndrome were seen of more than 37 weeks of gestation. (Table 4). In present study majority of the patients presented with severe preeclampsia and there were 20 cases (35.71%) with mild pre-eclampsia.

Maximum patients i.e., 58.92% of HELLP syndrome had platelet count less than 1lakh/ml. Serum lactate dehydrogenase was raised in all patients with HELLP syndrome. All patients with HELLP syndrome had raised serum AST was 70IU/L.55.36% (31 cases) had bilirubin levels > 1.2 mg/dl while 44.64% (25 cases) had bilirubin levels < 1.2 mg/dl.25% (14 cases) had abnormal renal function parameters.67.86% (38 cases) had serum uric acid levels > 6 mg/dl 33 cases (58.93%) required transfusion of blood or components while 23 cases (41.07%) did not require any blood and blood products.

## 8 Discussion

HELLP syndrome is life threatening complication considered to be variant of preeclampsia and eclampsia. Early identification of risk factors in pregnancy and timely intervention gives better maternal and perinatal outcome.

In our study mean maternal age was  $23.09 \pm 4.45$  (18-35 years) which was comparable to James N Martin et al., ?? (1991)  $22.9 \pm 5.5$  (14-42 years).

Majority of the patients in the present study were primigravidas (33 cases) 58.93% comparable to Sibai BM Taslim et al., ?? (1986) In this present study transfusion of bold and blood products was required in 58.93% which was comparable with Imir GA 10 62.5% and higher than Vigil Pde Gracia 7 29%.

In the present study, DIC 19.64% was lesser than Ahmed et al., 13 In this present study, maternal mortality was 14.28% and was higher than Imir GA 10 7.8% and Ahmed et al., 13

## 9 Conclusion

In our study done over a period of 2 years, there were 56 cases of HELLP syndrome. Once the diagnosis of HELLP syndrome has been made, it warrants aggressive intervention with control of blood pressure, antiseizure prophylaxis, corticosteroid treatment for fetal lung maturity and expeditious delivery. HELLP syndrome, among pre-eclampsia and eclampsia cases is associated with significant maternal morbidity and mortality and perinatal mortality and morbidity. The present study shows maternal mortality of 14.28% but still perinatal mortality constitutes 46.43%. In order to reduce the maternal and perinatal mortality, It is highly desirable that obstetric care providers at all levels become knowledge able about the early diagnosis and management of HELLP syndrome.

We have to intensify our efforts to reduce preeclampsia with HELLP syndrome from the grass root level with regular antenatal care, early detection of preeclampsia and its prompt management and early detection of complications with timely intervention. This will go a long way in preventing this catastrophic disease.

Vigilant fetal monitoring (including electronic fetal monitoring), prompt timely intervention at the periphery and improvement of neonatal care facilities with good prenatal care at the foremost are needed to reduce the perinatal mortality in the present study.

1

classification of HELLP as per Mississippi's

classification Class

Majority of the cases belonged to class II and

class III HELLP, 23 each (41.07%) followed by class I

HELLP, 10 (17.86%).

Figure 1: Table 1 :

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**2**

48.21% of cases were in the age group 20-24  
years (Table

Figure 2: Table 2 :

**4**

Year 2021  
12

Figure 3: Table 4 :

**5**

Clinical signs Class 1		Class 2	Class 3	Total			%
Mild	2	8		10	20		35.71%
BP							
Severe	8	15		13	36		64.29

Figure 4: Table 5 :

**6**

Figure 5: Table 6 :

**7**

Figure 6: Table 7 :

**8**

Figure 7: Table 8 :

**9a**

Figure 8: Table 9a :

9b

Maternal and Perinatal Outcome in Patients with HELLP Syndrome

platelet

LDH >600 IU/L AST/>70 IU/L UA>6mg Bilirubin >1.2 Srcreat>1.2mg/dl Blood and blood products Tra

Not	0	10
Transfused	10	
Transfused		
Grand		
Total		

Figure 9: Table 9b :

Figure 10:

10

Year 2021  
14

Figure 11: Table 10 :

## 11

Complications	Kim YH 6	Sibai BM et al 2	Svendsen HK 14	Imir GA 10	Present study
NICU admission	85.7%	28.3%	-	-	44.64%
Preterm	-	-	70%	-	46.43%
IUGR	47.6%	31.6%	38.6%	54.7%	30.36%
Still birth	-	19.5%	-	-	25%
IUD	4.8%	-	-	18.8%	10.71%
APGAR <6	66.7%	28.5%	-	37.5%	62.5%
RDS	38.1%	-	40%	23.4%	-
Sepsis	85.7%	-	-	7.8%	1.79%
Neonatal death	19.5%	17.4%	-	20.3%	10.71%

Shafika Banoo 15 40% and Hadded et al., 12 63%. Majority of the indication for cesarean section were fetal distress, CPD, previous cesarean section and worsening maternal parameters with failed induction.

Figure 12: Table 11 :

Cesarean delivery in present study was 16.07% which was lesser than Vigil P de Gracia 7 71% and 15

Figure 13:

## VI.

Figure 14:



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