



## Analysis of cases of hellp syndrome in pregnancy induced hypertension

**Dr. M Shonima Alfons<sup>1</sup>, Dr. Nirupama<sup>2</sup>, Dr. Sowmini<sup>3\*</sup>**

<sup>1-2</sup> Post graduate, department of obstetrics and gynecology, Rangaraya Medical College, Andhra Pradesh, India

<sup>3</sup> Professor, Department of Obstetrics and Gynecology, Rangaraya Medical College, Andhra Pradesh, India

### **Abstract**

Hellp syndrome is a life threatening condition requiring ICU admissions among obstetric patients.it is most of the times seen with preeclampsia-eclampsia and is characterised by hemolysis, elevated liver enzymes and low platelet count. It is associated with maternal and fetal complications. maternal morbidity of Hellp include abruption placenta (10-15%), disseminated intravascular coagulation (10-15%), pulmonary oedema, acute renal failure, adult RDS and death (1%).Among all these abruption and DIC are most commonly seen complications associated with Hellp. Fetal complications like RDS, intracranial haemorrhage, necrotizing enterocolitis, bronchopulmonary dysplasia are frequently seen [5], early recognition and appropriate treatment is essential to prevent maternall and foetal morbidity

**Keywords:** hellp syndrome, preeclampsia, eclampsia

### **1. Introduction**

Hellp syndrome was originally described by Pritchard *et al* but the term HELLP syndrome was coined by Dr. Louis Weinstein. It stands for Hemolysis, elevated liver enzymes and low platelet count [1]. In around 66% of cases Hellp occurs in antepartum period and the rest in the postpartum period. Most of the times it presents with nausea,vomiting, right upper quadrant pain or epigastric pain.in around 82-85% with HELLP will have mild to severe hypertension and 85% have significant proteinuria. It may sometimes be confused with, haemolytic uremic syndrome, fatty liver of pregnancy and thrombotic thrombocytopenic purpura, esophagitis, hepatitis, gastritis. Patients with hemolysis, elevated liver enzymes and lowplatelet count should be considered for HELLP unless proved otherwise. It occurs in 0.2-0.6% of all pregnancies and in 10-20% cases with severe preeclampsia<sup>2</sup>.

Criteria for diagnosis of HELLP Syndrome

Hemolysis

- Abnormal peripheral blood smear(burr cells, schitocytes)
- Elevated bilirubin >1.2g/dl
- Low serum haptoglobin
- Increased LDH > twice the upper limit of normal
- Elevated liver enzymes
- Elevated AST, ALT ≥ twice the upper limit of normal ( $\geq 72\text{IU/L}$ )

Low platelet count (<100,000/mm<sup>3</sup>)

Mississippi classification based on maternal platelet count divided HELLP syndrome into three categories<sup>3</sup>

1. Class (severe thrombocytopenia): platelet count below 50,000/mm<sup>3</sup>
2. Class (moderate thrombocytopenia)platelet count between 50,000 and 100000/mm<sup>3</sup>
3. Class (AST > 40 IU/l, mild thrombocytopenia): platelet count between 100000 and 150000/mm<sup>3</sup>

Tennessee system classifies HELLP into complete and incomplete Complete if all the three parameters are abnormal and incomplete if one

### **Materials and Methods**

This is prospective study conducted in Rangaraya medical college in the department of obstetrics and gynaecology from January 2019 to October 2019.

#### **Inclusion criteria**

- All pregnant women with hypertension who developed HELLP syndrome were included in the study
- Gestational age >20 weeks

#### **Exclusion criteria**

- Women with <20 weeks of pregnancy
- Women with other problems like cholecystitis, gastroenteritis, viral hepatitis, idiopathic thrombocytopenic purpura

Gestational age was calculated based on L.M.P, Diagnosis and classification of HELLP syndrome was based on criteria established by Mississippi classification based on abnormal peripheral smear, elevated total bilirubin and low platelet count and by Sibai *et al* into complete and partial HELLP syndrome. Clinical findings like B.P, Proteinuria, features of imminent eclampsia and eclampsia, abruption, DIC were taken and foetal outcome like Preterm birth, IUD, still birth were also taken

### **Results**

During the prospective study of 10 months from January 2019 to October 2019 there were a total of 7850 deliveries in our institution. Among them 920 antenatal women had Pregnancy induced hypertension complicating pregnancy in which 6 (0.65%) cases developed HELLP syndrome, 5 cases of Partial HELLP and 1 case of complete HELLP. Among 920 cases. Out of 920 cases of PIH, 535 cases are

Gestational hypertension 385 cases are preeclampsia, out of 6 cases one case had antepartum eclampsia and case died in postnatal period, there are 2 preterm deliveries and 4 term deliveries, 2 intrauterine foetal deaths, 2 caesarean sections

**Table 1:** showing gestational age wise distribution of Hellp cases

Gestational age	No of cases	HELLP	Partial HELLP
<26 weeks	0		
28-32 weeks	0		
33-36 weeks	2		2
>36 weeks	4	1	3
Total	6	1	5

**Table 2:** mode of delivery

Mode of delivery	No of cases	Partial HELLP	HELLP
Vaginal delivery	4	3	1
Caesarean delivery	2	2	0
Total	6	5	1

**Table 3:** perinatal complications

complications	HELLP	Partial HELLP	Total
Preterm	0	2	33.3%
Low apgar	0	2	33.3%
IUD	0	2	33.3%

**Table 4:** maternal complications

Maternal death	1
Eclampsia	1
Abruption	1

## Discussion

HELLP syndrome is a serious obstetric complication which should be diagnosed and treated at the earliest, our study showed an incidence of 0.65% in pregnancy induced hypertension cases, in Preetha George *et al* [6] study the incidence is 1.83%. Chawla sushil *et al* [7] reported an incidence of 0.45% in general population and 3.7% in hypertensive patients. Out of 6 cases of HELLP Primigravida were 3(50%), Multi gravida were 3(50%), In kota *et al* [8] study 73.3% primi gravid and 26.6% cases were muligravida. in our study it is equally distributed in primi gravida and multi gravida table 1 showing there are 4 cases of term, and 2 cases of preterm between gestational age 32-34 weeks. Sushil chawla [7] *et al* reported mean gestational age of  $32.89 \pm 2$  weeks. Table 2 showing total 4 (66.6%) vaginal deliveries, 2(33.3%) cases of caesarean deliveries, in kota et study [8] reported 86.6% delivered by caesarean section, in the present study from table 3 preterm deliveries were 33.3%, IUD 33.3%, babies born with low apgar were 33.3%. In Preetha George *et al* [6] study 76.36% of babies were preterm, IUDs 1.8%, low apgar 20%. In the present study as shown in table 4 maternal deaths are 1(16.6%) case, eclampsia 1 (16.6%) case and abruption placae 1 case(16.6%). In Sushil Chawla *et al* [7] reported maternal death of 12.5%

## Conclusion

Due to deleterious effects of HELLP syndrome on maternal and foetal health it is important to detect HELLP at the earliest and give prompt treatment, it is important to see facilities like ventilator, 24 hours availability of blood products, dialysis unit available at tertiary care center, it is even to educate the women regarding symptoms and

Seriousness of condition and the need for them to report to health care professional at the earliest

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