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Study of cases of hellp syndrome as a complication of Pih

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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.
Aims and Objectives: To study Hellp syndrome cases as a complication in hypertensive disorders of pregnancy, mode of delivery, foeto maternal outcome.
Materials and Methods: This is a prospective observational study conducted in Rangaraya medical college in the department of Obstetrics and Gynaecology from January 2019 to October 2019
Results: Pregnancy induced hypertension complicating pregnancy diagnosed in 920 women. HELLP syndrome was a complication in (n=6 cases)that is 0.65%,5 cases of Partial HELLP and one case of Complete HELLP in a total of 7850 deliveries. There are 2 preterm deliveries and 4 term deliveries, vaginal delivery in 4 cases,2 caesarean sections. Maternal morbidity of Hellp syndrome in our cases include abruptio placentae(16.6%),disseminated intravascular coagulation(16.6%), pulmonary edema (16.6%),acute renal failure(16.6%), maternal death (16.6%).Fetal complications were prematurity, LBW, IUD, RDS out of 6 cases
Conclusion: Hellp syndrome has deleterious complication of hypertensive disorders of pregnancy with high maternal and foetal morbidity and mortality. Early diagnosis and multimodal team approach at teritary care center can reduce foeto maternal morbidity and mortality.

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 Haemolysis, elevated liver enzymes and low platelet count [1]. In around 66% of cases HELLP occurs in ante partum 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 protienuria. I t 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 [2]. HELLP syndrome exposes to severe maternal and foetal complications [3].

Criteria for diagnosis of HELLP Syndrome Hemolysis
- Abnormal peripheral blood smear(burr cells, schitocytes)
- Elevated bilirubin >1.2g/dl
- Low seum haptoglobin
- Increased LDH > twice the upper limit of normal Eelevated liver enzymes
- Elevated AST, ALT ≥ twice the upper limit of normal (≥72IU/L)

Low platelet count (<100,000/mm^3)
Mississippi classification based on maternal platelet count divided HELLP syndrome into three categories [4].
1. **Class (severe thrombocytopenia):** platelet count below 50,000/mm^3
2. **Class (moderate thrombocytopenia):** platelet count between 50,000 and 100000/mm^3
3. **Class (AST >40 IU/l, mild thrombocytopenia):** platelet count between 100000 and 150000/mm^3

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

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 throm bocyto penic 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		
33-36weeks	2		2
>36weeks	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

Hypertensive disorders of pregnancy constitute one of the leading causes of maternal and parinatal mortality world wide. It has been estimated that preeclampsia complicates 2-8% of pregnancies globally[5]. HELLP syndrome is a serious obstetric complication which should be diagnoised 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. 0ut of 6 cases Of HELLP Primi gravida 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 pretem between gestational age 32-34 weeks. Sushil chawla [7]*et al* reported mean gestational age of 32.89±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 pretem 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%. Complications may include disseminated intravascular coagulation (DIC), Placental abruption, acute kidney failure, pulmonary edema, cerebral edema, cerebral hemorrhage, eclampsia, liver hematoma, liver rupture and death [9, 10, 11]. These cases were managed with control of hypertension, platlet replacement, induction and termination of pregnancy. In the present study as shown in table 4 maternal deaths are 1(16.6%) case, eclampsia 1 (16.6%) case and abruption placentae 1 case (16.6%). In Sushil Chawla *et al* [7]reported maternal death of 12.5%

Conclusion

HELLP Syndrome has deleterious complications of hypertensive disorders of pregnancy with high maternal and foetal morbidity and mortality. Early diagnosis and multimodal team approach at tertiary care centre with facilities like ventilator, 24 hours availability of blood products, dialysis unit can reduce foeto maternal morbidity and mortality.

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