International Journal of Anaesthesia & Research
IJAR, 2(2): 44-47
www.scitcentral.com

ISSN: 2641-399X

Original Research Article: Open Access

Comparıson of Maternal and Fetal Results ın HELLP Syndrome and Heavy Preeclampsıa Pregnancy

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Received May 13, 2019; Accepted May 15, 2019; Published August 06, 2019

ABSTRACT

Introductıon: The aim of this study is to compare maternal and perinatal outcomes in HELLP Syndrome (hemolysis, elevated liver enzymes and low platelet count) and severe preeclampsia cases.

Materıals and methods: This study was conducted between January 2015 and January 2018 in the Gynecology and Obstetrics and Gynecology Clinics of Zekai Tahir Burak Training and Research Hospital. The aim of this study was to retrospectively examine the files of the maternal and perinatal outcomes. Between these dates, 50.000 births (C/S: 10,000 patients, Normal spontaneous birth: 40,000 patients) occurred in our hospital. Severe preeclampsia or HELLP total incidence is 1.40% in our study period. The incidence of HELLP is 0.26% and severe preeclampsia is 1.35%. The mean age of 600 patients was 26.5 ± 5.2. 45% of the patients were primigravid, 90.2% were severe preeclampsia and 25% had normal spontaneous delivery. Severe preeclampsia and HELLP 110 (18%) were seen at the same time without HELLP, only severe preeclampsia was present in 480 (82%), and only HELLP was in 10 (1.8%). Statistical analyses were performed using the Chi-square (X^2) test with Yates' correction, the Student's t test, logarithmic transformation, and the logistic regression method.

Conclusıon: HELLP syndrome caused more maternal complications than severe preeclampsia.

Keywords: Maternal outcomes, Perinatal outcomes, HELLP syndrome, Preeclampsıa pregnancy

INTRODUCTION

Atrial fibrillation (AF) is the most common sustained While 60% of women with severe pre-eclampsia have a headache symptom, this figure is 52.3% in patients with HELLP Syndrome. However, this difference was not statistically significant (p=0.189) (p>0.05). Similarly, there was no statistically significant difference between severe preeclampsia and HELLP groups in terms of visual acuity, nausea and vomiting, dizziness and at least one symptom (p>0.05) **(Table 1)**. Epigastric sensitivity in patients with HELLP Syndrome **(Table 2)**. 32.4% were higher than the patients with severe preeclampsia (5.6%) and this difference was statistically significantly higher (p<0.001). The rate of birth with C/S patients with severe preeclampsia was 333 (71.3%) and in patients with HELLP Syndrome was 90 (81.1%), and this difference was statistically significantly higher in the HELLP group than in the Heavy preeclampsia group (p=0.037). The mean APGAR score of the patients with severe preeclampsia was 8.3 ± 1.3 and the mean score was 7.0 ± 1.5 in the patients with HELLP Syndrome and this difference was found to be significantly higher in favor of the severe preeclampsia group (p=0.012). In patients with severe preeclampsia, the need for intensive care was 53.2% and in patients with HELLP Syndrome was 69.5% and this difference was significantly higher in favor of the Hellp group (p=0.002) **(Table 2)**.

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Citation: Bilge A & Feray A. (2019) Comparıson of Maternal and Fetal Results ın HELLP Syndrome and Heavy Preeclampsıa Pregnancy. Int J Anaesth Res, 2(2): 44-47.

Table 1. Characteristics of the study group.

Pregnancy	**n: 600**
Age	26.5 ± 5.2
Primigravida	261 (45.2%)
Multigravida	317 (54.8)
Severe preeclampsia	570 (98.4)
Severe preeclampsia (without HELLP)	480 (82)
HELLP Syndrome	110 (18)
HELLP (without severe preeclampsia)	9 (1.6)
Abruption placenta	28 (4.8)
EMR (Early Membrane Rupture)	10 (1.7)
Korioamnionit	1 (0.2)
The gestational week of hospitalization was	34.2 ± 3.7
Mean systolic blood pressure	175 ± 18
Mean diastolic blood pressure	115.1 ± 12
Eclampsia	27 (4.7)
Oliguria	221 (38.2)
The use of dexamethasone	130 (22.5)
Normal birth	155 (26.8)
C/S	423 (73.2)

Table 2. Comparison of severe preeclampsia and HELLP syndrome.

	Severe preeclampsia (HELLP option) n: 490	**HELLP Syndrome n: 110**	**Odds ratio (GA %95)**	**p**
Headache	286 (%64)	57 (%51)	1.368 (0.90-2.07)	0.139
Blur vision	130 (%26.2)	40 (%36.0)	0.699 (0.45-1.08)	0.107
Epigastric sensitive	26 (%5.6)	36 (%32.4)	0.123 (0.07-0.21)	0.001
Nausea and vomiting	38 (%8.1)	7 (%6.3)	1.316 (0.57-3.03)	0.518
Dizziness	12 (%2.6)	1 (%0.9)	2.901 (0.37-22.55)	0.252
At least one symptom was	162 (%34.7)	32 (%28.8)	1.311 (0.83-2.06)	0.240
C/S birth	333 (%71.3)	90 (%81.1)		0.037
Anesthesia reginol rate	394 (%75)	47 (%90)		0.320
Postnatal hospital stay (days)	11.2 ± 17.9	13.6 ± 16.3		0.198
Maternal death	0	2 (%1.6)		0.229

The total incidence of severe preeclampsia or HELLP syndrome at 50.000 births in our hospital is 1.41%. The incidence of HELLP syndrome is 0.27% and severe preeclampsia rate is 1.39%. In our study, epigastric sensitivity (32.4%), birth rate 90% (81.1%) with C/S, postpartum oliguria, blood products, platelets, erythrocytes and fresh frozen plasma transfusion, and hematoma ratio (3.6%), postpartum BUN and creatinine values, rate of ABY (8.1%), at least one complication rate (62.2%), maternal intensive care needs and need for mechanical ventilation, NEC, intensive care needs of babies (69.5%), mechanical ventilation requirement (31.4) and duration of intensive care unit stay (13.1 ± 18.5 days) and neonatal mortality rate (14.3%) were significantly higher than severe pre-eclamptic group. The gestational week of hospitalization in HELLP syndrome (33.1 ± 3.6), gestational week at birth (33.2 ± 3.6), hospitalization time (0.7 ± 1.1 days), birth weight (1970.2 ± 740 g), hemoglobin and hematocrit values, APGAR 1.dk and APGAR 5.dk scores are significantly lower and statistically significant than severe pre-eclamptic group.

We found that laboratory findings other than the diagnostic criteria of HELLP Syndrome were similar in both groups and they were not statistically significant. We found only 10% less postpartum complications in patients with severe preeclampsia. We found that the simultaneous presence of HELLP Syndrome and severe preeclampsia increased the postpartum complication rate by 8.4 fold, but there was no relationship between the patients with HELLP Syndrome and postpartum complication. In our study, we found that presence of acid in the abdomen, oliguria, C/S, AST ≥ 70 ü/l, Platelet count, serum creatinine ≥ 1.36 mg/dl increased, maternal postpartum complication development. While 10.9% of women with severe preeclampsia had a history of hypertension in their previous pregnancy, 6.5% of women with HELLP Syndrome had a history of hypertension in previous pregnancies. However, this difference was not statistically significant (p=0.146). While 8.6% of women with severe preeclampsia had a history of chronic hypertension, 8.1% of women with HELLP Syndrome had a history of chronic hypertension. However, this difference was not statistically significant (p=0,876) (p>0.05). In a study performed by Martin et al. it was found that laboratory findings other than diagnostic criteria of HELLP Syndrome were similar in both groups and +3, +4 proteinuria in both groups were similar [3,12].

DISCUSSION

Caritis et al. reported that preeclampsia was observed more frequently in patients with pre-pregnancy hypertension [9]. In other studies, pregnant women who had severe preeclampsia and eclampsia in their previous pregnancy started that the risk of recurrence pregnancies increased [1,6,11]. However, there is no adequate study comparing severe preeclampsia and HELLP syndrome in terms of risk factors. When we compared severe preeclampsia with HELLP Syndrome in our study, we found that epigastric sensitivity was higher in patients with HELLP Syndrome (32.4%) than in patients with severe preeclampsia (5.6%) and this difference was statistically significant (p<0.05) **(Table 2)**. In a study by Martin et al. found headache to be more common in patients with severe preeclampsia than HELLP Syndrome; Epigastric sensitivity was significant in both studies in favor of HELLP Syndrome. The most common clinical symptoms of HELLP syndrome are fatigue, epigastric tenderness and pain [6,10]. We can say that this symptom is more stimulating in terms of HELLP Syndrome.

In our study, we found that the rate of birth with C/S was higher in 90 patients (81.1%) compared to 333 (71.3%) in severe preeclampsia group. Similarly, in different studies, C/S ratio was reported to be higher in HELLP Syndrome compared to severe preeclampsia [1,2,5]. We think that HELLP Syndrome is more risky in terms of both maternal and perinatal mortality and morbidity compared to severe preeclampsia and necessitates urgent delivery.

The mean postpartum hospital stay was 11.2 days in the severe preeclampsia group and 13.6 days in HELLP Syndrome but this was not statistically significant. In the study of Kumru et al. there was no difference in the length of hospital stay between the two groups [4]. However, in a study by Martin et al. in HELLP Syndrome, this time is longer and this is due to the increased incidence of postpartum complications in HELLP Syndrome and thus increased the need for hospitalization [3,12].

In our study, Systolic blood pressure was ≥ 160 mm Hg, diastolic blood pressure ≥ 110 mm Hg, headache, blurred vision, epigastric tenderness, nausea-vomiting, dizziness, gestational age at birth (p>0.05). In the study of Philippe et al. unlike our study, postpartum complication development was 2.55 times the systolic blood pressure ≥ 160 mm Hg and C/S 2.11 fold increased especially after the delivery was performed. Perinatal mortality rate has been reported to very between 7.7% and 60% in patients with HELLP Syndrome [5,6-8]. In our study, we found this rate to be 14.3%. We attributed the relatively low rate to a tertiary center and the availability of our intensive care conditions.

CONCLUSION

Severe preeclampsia and HELLP syndrome increase maternal-perinatal morbidity and mortality rates especially in developing countries. In our study, we found that especially HELLP syndrome caused more maternal complications than severe preeclampsia. However, although neonatal morbidity and mortality can be explained by the small gestational age, we could not reach a clear conclusion about the reason of poor neonatal outcomes in HELLP Syndrome because the gestational age is smaller than the severe preeclampsia.

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