

Incidence, maternal complications and perinatal outcomes of pregnancy complicated with HELLP syndrome

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Objective: To determine the incidence, maternal complications, and perinatal outcomes of pregnancy complicated with HELLP syndrome (characterized by hemolysis (H), elevated liver enzymes (EL) and low platelet count (LP)). **Methods:** A retrospective descriptive study was conducted at Khon Kaen University Hospital, a tertiary care facility in Thailand. A total of 213 pregnant women, who were diagnosed preeclampsia from January 2012 to December 2016. Various characteristics were examined to compare maternal complications and perinatal outcomes among preeclampsia women with or without HELLP syndrome. **Results:** There were a total of 11,199 deliveries during the study period and 213 pregnant women (19 per 1000 deliveries) that complicated with preeclampsia, out of which 16 pregnant women (1.4 per 1000 deliveries) who complicated with HELLP syndrome were identified. Seventeen women (8%) had underlying chronic hypertension; 11 (5.6%) in the preeclampsia without HELLP syndrome group and 6 (37.5%) in the HELLP syndrome group. All women in HELLP syndrome group were singleton and three-quarter were multiparous women. Mean gestational age of delivery was 34.1 ± 3.8 weeks of gestation in the preeclampsia without HELLP syndrome group and 31.2 ± 4.7 weeks in the HELLP syndrome group. 89 women (41.8%) experienced fetal growth restriction; 79 (40.1%) in the preeclampsia without HELLP syndrome group and 10 (62.5%) in the HELLP syndrome group. The major route of delivery in the HELLP syndrome group was Cesarean delivery (13 women, 81%). Placental abruption (2 women; 1%) and heart failure (1 woman; 6.3%) only occurred among women in the HELLP syndrome group. ICU admission and blood transfusion were significantly higher among women in the HELLP syndrome than among women without HELLP syndrome (37.5% vs 1%; $p < 0.001$ and 56.3% vs 2%; $p < 0.001$), respectively. Mean birth weight was significantly lower in the HELLP syndrome group ($1,831 \pm 914$ g vs $2,305 \pm 813$ g; $p < 0.001$). Neonatal complications were significantly higher in the HELLP syndrome group (birth asphyxia = 43.8% vs 8.7%, $p = 0.001$; NICU admission = 43.8% v

16.8%, $p < 0.05$). Stillbirth and intrapartum death were higher percentages in the preeclampsia with HELLP syndrome group, but without statistical significance (6.3% vs 1%, $p = 0.1349$ and 12.5% vs 3.8%, $p = 0.190$), respectively.

Conclusion: The incidence of preeclampsia with HELLP syndrome was 1.9 per 1000 deliveries. Maternal complications and perinatal outcomes were more commonly observed.