

Epidemiology and perinatal outcomes of early-onset preeclampsia

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Objective

Preeclampsia is a major cause of maternal mortality, and early-onset preeclampsia (diagnosis at less than 34 gestational weeks) carries a significantly greater risk of fetal growth restriction, abruptio placenta, preterm birth, and perinatal complications. This study aimed to determine the incidence of early-onset preeclampsia among pregnant women and compare the characteristics, maternal complications, perinatal outcomes, and associated factors between women with early- and late-onset preeclampsia.

Methods

This retrospective cohort study was conducted at Khon Kaen University's Srinagarind Hospital, which is a tertiary care facility for northeast Thailand. We identified and reviewed the records of pregnant women diagnosed with preeclampsia according to The Royal Thai College of Obstetricians and Gynecologists Clinical Practice Guideline and American College of Obstetricians and Gynecologists Guidelines from January 1, 2012, to December 31, 2019. Maternal complications, perinatal outcomes, and associated factors were compared between women with early-onset and late-onset preeclampsia.

Results

There was a total of 18,309 deliveries during the study period, from which 376 cases of preeclampsia were identified. The overall incidence of preeclampsia was 20.5 per 1,000 deliveries (95%CI 18.5 to 22.7). Of these, 129 (34.3%, 7.0 per 1,000 deliveries, 95%CI 5.9 to 8.4) were diagnosed with early-onset preeclampsia, and 247 (65.7%, 13.5 per 1,000 deliveries, 95%CI 11.9 to 15.0) were diagnosed with late-onset preeclampsia. The two groups differed significantly in the rates of primary cesarean section (early-onset: n=91 [70.5%]; late onset: n=153 [61.9%]) and non-reassuring fetal status (early onset: n=32 [24.8%]; late onset: n=26 [10.5%]). Mean birth weight was significantly lower in the early-onset group (1,399.9 versus 2,694.5 g, $p < 0.001$), and the proportion of women who required admission to the intensive care unit was significantly higher (19.4% versus 2.8%, $p < 0.001$). The rates of neonatal complications, including low birth weight, birth asphyxia, neonatal intensive care unit admission, and stillbirth were also higher in the early-onset group (low birth weight: 90.7% versus 37.4%, $p < 0.001$; birth asphyxia: 38.6% versus 13.4%, $p < 0.001$; neonatal intensive care unit admission: 63.6% versus 19.3%, $p < 0.001$; stillbirth: 9.3% versus 2.4%, $p = 0.004$).

Conclusion

The incidence of early-onset preeclampsia was 7 per 1,000 deliveries. Maternal complications and perinatal outcomes were higher in the early-onset group.