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Early-onset preeclampsia recurrence risk and subsequent maternal and perinatal outcomes

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Background: Early-onset preeclampsia is associated with adverse maternal and perinatal outcomes. For women who consider another pregnancy after one complicated by early-onset preeclampsia, the likelihood of recurrence and the subsequent pregnancy outcome for themselves and their babies are pertinent considerations.

Objectives: To determine the subsequent pregnancy rate after a nulliparous pregnancy complicated by early-onset preeclampsia, and among those who have a subsequent pregnancy, the risk of recurrence by gestational week and adverse pregnancy outcomes.

Study Design: Population-based record linkage cohort study was done. The study population included nulliparous women with a singleton pregnancy and early-onset preeclampsia (<34 weeks) giving birth in New South Wales, Australia, 2001 through 2010 (the index birth), with follow-up for a subsequent birth through 2012. Early-onset in the index birth was further categorised as <28 weeks versus 28-33 weeks. Subsequent pregnancy outcomes assessed included the pregnancy rate, preeclampsia recurrence, and maternal and perinatal morbidity and mortality. The risk of preeclampsia necessitating delivery at each gestational week for women at risk was plotted and the net gain or loss of gestational age when comparing the index with the subsequent pregnancy was calculated.

Results: Among 361,031 nulliparous women with singleton pregnancies, 1473 (0.4%) had early-onset preeclampsia. Women with early-onset preeclampsia in their first pregnancy had a lower subsequent pregnancy rate (59.7%) than women without preeclampsia (67.7%). Of the 758 women with a subsequent singleton birth, 256 (33.8%) developed preeclampsia in the next pregnancy including 57 (7.5%) with recurrent early-onset preeclampsia. Cumulative rates of preeclampsia in the subsequent pregnancy were higher at every gestation from 23 weeks when the index birth was <28 weeks compared with 28-33 weeks. The cumulative rate and gestation-specific risk of recurrent preeclampsia rose most steeply between 32 and 38 weeks. Most women (94.6%) progressed to a later gestational age in their subsequent pregnancy: The median overall increase in gestational age at delivery was 6 weeks (interquartile range 4 to 8), and among women with recurrent preeclampsia the median increase was 5 weeks (interquartile range 2 to 7). Women with index birth <28 weeks compared with 28-33 weeks were more likely to deliver preterm (38.8% versus 28.7%: Relative risk 1.35; 95% confidence interval 1.04-1.75) and have a perinatal death (4.3% versus 1.2%: Relative risk 3.46; 95% confidence interval 1.15-10.39) at the subsequent birth, but liveborn infants had similar rates of severe morbidity (17.1% versus 15.0%: Relative risk 1.14; 95% confidence interval 0.73-1.79).

Conclusion: Women with early-onset preeclampsia in a first pregnancy appear less likely than women without preeclampsia to have a subsequent pregnancy. Maternal and perinatal outcomes in the subsequent pregnancy are generally better than in the first: Most women will not have recurrent preeclampsia and those who do will usually give birth at a greater gestational age compared to their index birth.

Biography

Sean Seeho is an Obstetrician and Post-doctoral Fellow at the University of Sydney. He obtained his PhD from the University of Sydney in 2011. He is currently Co-Head of the Discipline of Obstetrics, Gynecology and Neonatology at the University of Sydney and is active in clinical research.

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