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Early onset preeclampsia: using population data to assess recurrence risk and adverse pregnancy outcomes

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Objectives

Use linked perinatal data to determine the subsequent pregnancy rate after a pregnancy with early onset preeclampsia and, among those who have a subsequent pregnancy, the risk of recurrence and adverse pregnancy outcomes.

Approach

Preeclampsia is a hypertensive disorder of pregnancy associated with adverse outcomes for the mother and baby. Although rare, when preeclampsia occurs before 34 weeks of gestation, the risk of adverse outcomes is markedly increased primarily due to prematurity. Despite the desire for another child, many women are anxious about becoming pregnant again because of concerns of recurrent complications in a next pregnancy but information for counselling is sparse. We undertook a population-based record linkage cohort study using longitudinally-linked birth and hospital records from New South Wales (Australia) to create medical and obstetric histories. The study population included nulliparous women with a singleton pregnancy and early onset preeclampsia who gave birth between 2001 and 2010 (the index pregnancy), with follow-up for a subsequent birth through 2012. Early onset preeclampsia was defined as a hospital record (antenatal and/or delivery hospitalisations) with a diagnosis of preeclampsia and delivery before 34 weeks gestation. Outcomes included subsequent pregnancy, and among women with a consecutive subsequent birth, the preeclampsia recurrence rate and adverse pregnancy outcome rates.

Results

Of 1473 (4.0/1000) nulliparous women who had early onset preeclampsia in the index pregnancy, 60% had evidence of any subsequent pregnancy compared to 66% for women without preeclampsia ($P < 0.001$). Of 758 women with early onset

preeclampsia and a subsequent singleton birth ≥ 20 weeks gestation, 256 (33.8%) had preeclampsia in the subsequent pregnancy but only 57 (7.5%) had recurrent early onset preeclampsia. Most women (717, 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 [IQR] 4 to 8) and among the women with recurrent preeclampsia the median increase in gestation in the subsequent pregnancy was 5 weeks (IQR 2 to 7). Outcomes in the subsequent pregnancy included 4.2% postpartum haemorrhage, 3.4% severe maternal morbidity, 2.6% Apgar < 7 at 5 minutes, 16.2% small-for-gestational-age and 1.7% perinatal deaths.

Conclusion

Most women with early onset preeclampsia had good outcomes in their subsequent pregnancy. For rare conditions, linked population data with accurately recorded information can provide robust estimates of outcomes that can inform clinical counselling.

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