Recurrent Placenta-Mediated Complications in Women With Three Consecutive Deliveries

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Objective

To estimate the risk for placenta-mediated complications in women in their third delivery according to their obstetric history in the 1st and 2nd deliveries.

Materials & Methods

- A retrospective cohort study of all women with singleton pregnancies who delivered their first three consecutive deliveries in a single medical center over a 20-year period (1994-2013). The risk for placenta-mediated complications in the 3rd delivery, i.e., hypertensive disorders such as preeclampsia or gestational hypertension, placental abruption and small for gestational age (SGA<10th percentile), was assessed according to the presence or absence of complications in previous deliveries. Pregnancies complicated by multiple gestations or fetal anomalies were excluded.

Main Results

Of the 121,728 deliveries during the study period, 4,472 women (13,416 deliveries (11.0%) met inclusion criteria. The rate of placental-mediated complications in the 3rd delivery was 5.9% (n=264). The most prevalent placental-mediated complication was SGA. The risk for each placenta-mediated complication was greater, the higher the incidence of placental-mediated complications in prior pregnancies. In multivariate analysis, that risk was significantly associated with the number and order of complications in previous deliveries in a dose-dependent pattern: with no complications in either their first or second deliveries as reference (n=3,650); the aOR (and 95% confidence intervals) was 4.35 (3.03-6.24) for complications in the first delivery but not the second delivery (n=532); 6.41 (3.95-10.38) for complications in the second delivery but not the first delivery (n=179), and 8.28 (4.72-14.58) for complications in both first and second deliveries(n=111), (p<0.001).

Conclusions

The number and order of previous placenta-mediated complications in the first two deliveries are major risk factors for recurrence in the 3rd delivery. Previous SGA was the strongest risk factor for recurrence of SGA and other placental mediated-complications.