Managing Placenta Previa with Fetal Risk in Mind

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Editorial

The focus on placenta previa tends to be on maternal risks, although there are substantial fetal risks as well. Specifically, the risk of cerebral palsy (CP) in fetuses increases in the presence of placenta previa [1]. A recent retrospective study using a national database in Norway compared the backgrounds of CP infants with those of healthy infants [1]. Among infants with CP, 22 were complicated by placenta previa, which accounted for 0.9% of the 2350 placenta previa cases. After adjusting for maternal age and parity, placenta previa was found to increase the risk of CP (adjusted relative risk: 2.98, 95% confidence interval (95% CI): 1.96–2.43). The study also examined risks of other placental and umbilical cord abnormalities. Only placental abruption (adjusted relative risk: 10.25, 95% CI: 8.43–12.97) was associated with a higher risk of CP than placenta previa, suggesting that placenta previa is associated with a higher risk than other cord or placental abnormalities (ventilantous cord insertion: adjusted relative risk, 2.06, 95% CI: 1.64–2.58; umbilical cord knot: adjusted relative risk, 1.54, 95% CI, 1.16–2.06; isolated single umbilical artery: adjusted relative risk, 1.07, 95% CI: 0.58–1.99; retained placenta: adjusted relative risk, 1.69, 95% CI: 1.30–2.20).

There are two main reasons why placenta previa increases the risk of CP. Firstly, massive antenatal hemorrhage associated with placenta previa can lead to maternal circulatory failure, resulting in fetal circulatory failure with cerebral ischemia developing periventricular leukomalacia (PVL). Secondly, placenta previa often necessitates preterm births secondary to massive antenatal hemorrhage or other complications. The resultant prematurity can lead to CP. There are several studies that have associated CP and preterm deliveries in patients with placenta previa. While most obstetricians strive to prolong pregnancy in the presence of placenta previa, they also desire to avoid major hemorrhage.

Episodes of antenatal hemorrhage in late pregnancy increase the risk of CP. A single-center study retrospectively evaluated CP infants [2] with 10 infants were born between 30 and 31 weeks of gestation resulting in cystic periventricular leukomalacia (PVL) developing in 5 of the infants. Interestingly, the 5 infants with cystic PVL had experienced significant maternal antenatal hemorrhage, whereas only 1 of the 5 healthy infants had experienced such an episode. Due to the universal health insurance system in Japan, patients with placenta previa who have experienced antenatal hemorrhage are hospitalized. In addition, placenta previa patients with a short cervix (e.g., less than 20 mm) or lack of home support in case of an emergency are also hospitalized. However, it remains unknown whether this practice reduces the maternal-fetal risks including CP. A randomized trial showed that there was no significant differences in morbidities between inpatients and outpatients, although the incidence of CP was not evaluated [3].

We desire to introduce this special issue regarding placenta previa with 4 original articles. Bai et al. [4] discussed internal iliac artery ligation for placenta previa. They demonstrated that the internal iliac artery ligation was an effective method in managing high-risk obstetric bleeding and helps to avoid a further operation including hysterectomy. Dong et al. [5] discussed the usefulness of barbed suture for placenta accreta spectrum (PAS). They evaluated intraoperative complications and postoperative complication during a 6 week postoperative period. Choi et al. [6] evaluated the risk of emergent cesarean hysterectomy in more than 900 patients with placenta previa. They developed predictive models for cesarean hysterectomy using several parameters. Caldas et al. [7] summarized their experience of PAS cases over 15 years reporting safe management practices. Although the 4 manuscripts are based on retrospective studies, the data presented is clinically beneficial. Pregnancies at an advanced maternal age have been increasing, and thus pregnancies associated with placenta previa will increase. Placenta previa associated with advanced age pregnancies are frequently complicated with PAS. Placenta previa with PAS may result in an increase in maternal and/or fetal morbidity. Additional investigations are needed to add various perspectives for these serious medical conditions.

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