Placenta Previa

Timothy Rowe, MB BS, FRCSC
Editor-in-Chief

Few obstetrical conditions have the far-reaching effects of placenta previa. Pregnancy itself can be an anxious time, but for the most part the anxiety is restricted to the prospective parents. A woman with placenta previa, however, will potentially be a source of anxiety for her caregivers and her wider family circle. Not knowing when the anticipated antepartum hemorrhage might occur—in hospital or at home, close to term or far removed from it—is unsettling for most. Beyond this, not knowing whether or not the anticipated bleeding will be life-threatening is potentially unnerving for all but the most seasoned professionals.

Placenta previa has an overall prevalence in North America of 2.9 per 1000 pregnancies, compared with a global prevalence of 5.2 per 1000 pregnancies.[1] The highest prevalence internationally is in Asian women, in whom the overall prevalence is 12.2 per 1000 pregnancies.[1] Available data do not allow us to establish why there are regional differences in these rates, although in 1993 Iyasu et al. found that in the United States women with Asian ethnicity had twice the risk of placenta previa compared with women of other ethnicities.[2] This suggests that there may be a genetic predisposition. The occurrence of placenta previa is also significantly associated with uterine scarring and endometrial disturbance that occurs with uterine instrumentation (such as curettage), previous placenta previa, and, importantly, Caesarean section.[3] It appears that for reasons yet unknown the presence of scarring or endometrial disruption in the lower uterine segment predisposes to placental implantation in that area.[4] Fortunately, as pregnancy continues, the placenta follows a process of growth called "trophotropism," in which the trophoblastic cells seek areas of higher vascularity towards the fundus. This results in apparent migration of the placenta (in more than 90% of cases) away from the scarred and less vascular lower segment.[3] Placental tissue remaining in the lower segment may atrophy completely, may persist as islands (succenturiate lobes), or may atrophy leaving intact vessels (vasa previa). The placenta does a nice trick of appearing to pick up and move, but in fact there is less magic than it seems.

From a public health perspective, the association between placenta previa and previous Caesarean section is worrisome. The risk of placenta previa increases with the number of previous Caesarean sections; a woman who has had one previous Caesarean section has an odds ratio for placenta previa of 4.5, but if she has had four previous Caesarean sections her odds ratio jumps to 44.9.[5] This seems like an alarming jump, although there is evidence that if women who have actually had placenta previa are excluded from the analysis, the risk for the next pregnancy looks less alarming.[6] Nevertheless, the lesson is clear: with falling rates of Caesarean section, there will be a fall in the prevalence of placenta previa. It's another reason to be circumspect about Caesarean section without obstetric indication.

Because heavy vaginal bleeding is quite possible, where should a woman with a diagnosis of placenta previa in the third trimester stay? Previous guidelines have recommended that women with a major degree of placenta previa and an episode of bleeding be hospitalized from 34 weeks,[7] but there is no substantial evidence to support this. A retrospective study of 161 women found that the degree of placenta previa did not predict the likelihood of bleeding or the need for emergency delivery.[8] The need for hospitalization obviously should be judged individually. Common sense suggests that a woman with a perceived risk of bleeding could stay at home provided that her home is reasonably close to the hospital where she will deliver, and that she always has someone available to assist her. Only one small randomized trial has assessed inpatient versus outpatient management of women with placenta previa, and the only difference between the groups was a shorter hospital stay for the outpatient group[9]; so having these women stay at home is not unreasonable. But it could also make their families jumpy.

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And then there is the issue of mode of delivery. It is clearly understood that a woman with a placenta covering the internal os close to term will have to deliver by Caesarean section, but if the placenta does not reach the internal os the preferred mode of delivery is more controversial. In the 2007 SOGC Clinical Practice Guideline "Diagnosis and Management of Placenta Previa," the recommendation is that when the edge of the placenta (on transvaginal sonography, at 35 weeks' gestation or later) is > 20 mm from the internal cervical os, the woman concerned can be offered a trial of labour with the expectation that safe vaginal delivery is quite possible.[10] However, if the distance from the placental edge to the internal os is < 20 mm there is a greater risk of requiring a Caesarean section, although vaginal delivery may still be possible.[10] In this issue of the Journal, Khalid Al Wadi and colleagues describe the outcomes of a prospective study of women with a placental edge between 11 and 20 mm from the internal os who underwent a trial of labour.[11] Their findings are reassuring: more than 90% of the women delivered vaginally without significant intrapartum bleeding. They concluded that their results validated the classification of placenta previa proposed by Lawrence Oppenheimer and Dan Farine in 2009 to rationalize management,[12] and confirmed that not all women with a placental edge < 20 mm from the internal os would require delivery by Caesarean section. Considering that the study conducted by Dr Al Wadi and colleagues was prospective, the findings are significant and valuable.

Placenta previa is a serious obstetric issue and should be managed by experienced teams. The associated morbidities include hemorrhage (antepartum, intrapartum, and postpartum), abnormal placental adherence, need for Caesarean hysterectomy and blood transfusion, septicemia, and thrombophlebitis.[3] The potential for emotional distress on the part of the woman involved, arising from episodes of heavy vaginal bleeding, the need for repeated hospitalizations, and concern for her baby's welfare, cannot be trivialized. The more we can do to reduce the incidence of placenta previa, and avoid these consequences, the better.

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