Anaesthesia for caesarean section complicated by placenta praevia

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Placenta praevia is present when the placenta implants below the presenting part of the fetus. It is classified into grades I–IV depending on the relationship between the placenta and the cervical os. Placenta praevia complicates 1 in 200 deliveries and is associated with considerable maternal and fetal morbidity and mortality (Iyasu et al, 1993; Department of Health, 2001). Increased bleeding is seen from the placental bed, which is abnormally implanted into the less contractile, lower segment of the uterus. A morbidly adherent placenta (accreta) further increases these risks.

Placenta praevia is usually detected during an antenatal scan. These women are observed and often admitted to hospital towards the end of pregnancy, where there is access to anaesthetic, obstetric and neonatal services. Although a few women experience vaginal bleeding requiring urgent delivery, most cases are delivered by planned caesarean section with the mother haemodynamically stable. In these cases there is debate as to whether a regional or general anaesthetic should be used.

For most caesarean sections, regional anaesthetic is the technique of choice. Pregnant women are at increased risk of failed intubation or aspiration if they receive a general anaesthetic. Also, general anaesthetics cross the placenta and sedate the fetus. Women experience less pain after a regional anaesthetic and are at less risk of thromboembolic complications. However, there is concern about the use of regional anaesthesia when a patient may become hypovolaemic. Regional anaesthetics block the normal sympathetically-mediated responses to hypovolaemia (vasoconstriction and increased heart rate and contractility). Other concerns include management of major haemorrhage in a conscious patient. Some anaesthetists, therefore, insist that women with placenta praevia should always receive a general anaesthetic.

Others feel that regional anaesthetic is a better technique. Regional anaesthetic may reduce blood loss, because it avoids the relaxation of the uterus which general anaesthetics cause. Sympathetic blockade may reveal maternal hypovolaemia more quickly, thus allowing earlier treatment. Also regional anaesthetic allows peroperative haemodilution which reduces transfusion requirements.

A survey of UK anaesthetists found that factors influencing the choice of anaesthetic technique included: elective or emergency caesarean section, degree and position of placenta praevia, the amount of antepartum blood loss, cardiovascular status, trainee or consultant anaesthetist and the amount of obstetric experience (Bonner et al, 1995).

Prospective studies are lacking but retrospective studies offer some guidance (Arcario et al, 1988; Frederiksen et al, 1999; Parekh et al, 2000). Regional anaesthesia is associated with less blood loss and reduced transfusion requirements than general anaesthetic. Patients receiving regional anaesthetic do not have more hypotensive episodes during surgery. Regional anaesthesia appears to be a safe technique, even in women who experience massive haemorrhage undergo caesarean hysterectomy.

Although regional anaesthesia should not be used in the presence of uncorrected hypovolaemia, it appears to be a safe and potentially beneficial technique in the majority of cases. It is essential that facilities to contend with sudden blood loss are available (cross-matched blood, wide-bore intravenous access, rapid infusion device and a blood warmer). Also, major obstetric haemorrhage protocols must be in place as must protocols to allow for early involvement of experienced clinicians (Royal College of Obstetricians and Gynaecologists, 2000; Department of Health, 2001).

The authors advocate the increased use of regional anaesthesia for caesarean section for placenta praevia and would encourage a prospective randomized controlled trial to further investigate this topic. HM

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