Complications early in pregnancy or in previous pregnancies adversely affect existing or subsequent pregnancies

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Complications in early pregnancy or in previous pregnancies can predict the likelihood of further problems in current or subsequent pregnancies, according to research carried out by an international group of experts.

Their findings will help clinicians to predict more easily which women might need greater care and supervision during pregnancy, as well as enabling new research to improve clinical management of such high risk patients. Improving care for pregnant women and their babies is of particular importance in countries such as The Netherlands where perinatal mortality is a cause for concern. The Netherlands has a perinatal mortality rate of 9.8 per 1000 (2006 figures) - the second highest rate in Europe.

Dr Robbert van Oppenraaij told the 25th annual meeting of the European Society of Human Reproduction and Embryology in Amsterdam today (Monday) that he and his colleagues from the UK, Denmark and Spain had reviewed 75 studies carried out between 1980-2008 that looked at the impact of early pregnancy complications.

Dr van Oppenraaij, a medical doctor and PhD student in the Department of Obstetrics and Gynaecology at Erasmus MC University Medical Centre (Rotterdam, The Netherlands), said: "There were several interesting findings. To name two: firstly, we found that after any first trimester complication or event, the risk of preterm or very preterm

delivery is increased in the subsequent or ongoing pregnancy; secondly, we found that increased risks of adverse obstetric outcome are, in all cases, related to the severity or recurrence, or both, of the first trimester complication or event. To our knowledge, this is the first comprehensive review in which the impact of more than one first trimester complication on adverse obstetric outcome has been investigated systematically."

The researchers found that a history of one or more miscarriages nearly doubled the risk in an ongoing pregnancy of preterm premature rupture of the membrane that surrounds the baby in the womb, and increased the risk of premature or very premature delivery (earlier than 37 or 34 weeks respectively). Recurrent miscarriages (three or more miscarriages) increased the risk in a subsequent pregnancy of all of these conditions; in addition, it increased the risk of placenta praevia (where the placenta partially or completely blocks the cervix) six-fold and congenital malformations nearly two-fold. If a previous pregnancy had to be terminated for any reason, this increased the risk of premature rupture of the membrane, premature and very premature delivery in subsequent pregnancies.

Dr van Oppenraaij said: "The finding of a six-fold risk of placenta praevia needs to be treated with caution as it came from one, small, retrospective study. More and larger studies are needed to confirm this finding."

If problems were encountered in the first trimester of an ongoing pregnancy, this increased the risk of further complications later on in the same pregnancy. For instance, vaginal bleeding in the first trimester increased the risk of preeclampsia, premature or very premature delivery and more than doubled the risk of low birth weight and very low birth weight. These risks were further increased after detection of an intrauterine haematoma. The survivor in a vanishing twin pregnancy (a twin pregnancy in which one twin miscarries very early in the

pregnancy) was at increased risk of premature or very premature delivery, had double the risk of low birth weight, three times the risk of very low birth weight, and more than three times the risk of perinatal death. Extreme early morning sickness (hyperemesis gravidarum) was associated with a three-fold increased risk of premature delivery and a nearly three-fold risk of low birth weight.

Dr van Oppenraaij said: "While it is true that most conditions are difficult to prevent, with improved monitoring in high risk pregnancies it is possible to reduce perinatal or postnatal foetal complications. For example, in pregnancies with increased risk of preterm or very preterm delivery or intrauterine growth restriction, extra ultrasonic measurement of the cervical length and foetal growth can provide a better prediction of pregnancies at risk and better therapeutic care can be given, such as bed rest, corticosteroids and monitoring of the baby's heart beat. Furthermore, by identifying high-risk patients, this could enable new research for improved clinical management.

"Events and complications in early pregnancy are amongst the most common complications in women during their pregnancy and can be extremely distressing for them. For the clinician it is important to interpret the symptoms and to understand not only the short-term consequences, but also the long-term consequences of these early pregnancy complications. This is especially important for reassuring and supporting the couple at a difficult time.

"More large controlled studies, using local National Birth Registries, are needed to confirm our findings. In particular, larger studies concerning the risk of adverse late pregnancy outcome in women presenting with unexplained recurrent miscarriage, intrauterine haematoma and a smaller than expected foetus are needed."

Source: European Society for Human Reproduction and Embryology

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