

# Miscarriage and infertility treatment increase pre-eclampsia risk

18 December 2008

Repeated miscarriages and hormone treatment for infertility give an increased risk of pre-eclampsia among pregnant women. This comes from a new study from the Norwegian Institute of Public Health. More than 20 000 first-time mothers from the Norwegian Mother and Child Cohort Study (MoBa) were included in the study.

## Normal risk

-- First-time mothers who had not miscarried or had problems getting pregnant had a 5.2 % risk of pre-eclampsia.

## Risk after miscarriage

-- Women who had three or more miscarriages had a 50 % increased risk of pre-eclampsia compared with women who had not miscarried.  
-- Women who had one or two miscarriages are not thought to be at higher risk.  
-- Among women who had both miscarriages and treatment for infertility, the risk for pre-eclampsia was 13 %.

## Risk after infertility treatment

-- The study also shows that women who had infertility treatment had a 25 % higher risk of pre-eclampsia.  
-- Women who became pregnant after hormone treatment to stimulate ovulation had a doubled risk of pre-eclampsia compared to women without treatment.  
-- Assisted conception treatment was not linked to an increased risk, even though hormone stimulation is part of the procedure.  
-- Different causes of infertility (polycystic ovary syndrome, blocked Fallopian tubes etc.) can probably explain the difference in risk for pre-eclampsia. It is likely that factors in mothers that cause infertility may also give an increased risk of pre-eclampsia.  
-- It is less likely that the treatment itself explains

the increased risk, even if this cannot be excluded.

The study has been recently published in the *British Journal of Obstetrics and Gynaecology, BJOG*.

## Placenta important for normal development

The causes of pre-eclampsia are unknown, but involve the placenta. The placenta is important for normal development of the pregnancy. Failure in the development and function of the placenta seems to be an important mechanism in the development of pre-eclampsia but no-one knows why. The results from this study show that the protective effect seen after earlier normal pregnancies (births or terminations) is not present among women with repeated miscarriages. The study indicates that common causal factors linked to the placenta's development and function may be present in infertility, repeated miscarriages and pre-eclampsia.

## Facts about pre-eclampsia

-- Affects 3-5 % of all pregnant women.  
-- Greatest risk among first-time mothers.  
-- Appears in second half of pregnancy  
-- Recognised by high blood pressure and protein in mother's urine.  
-- In mild cases the mother can be unaffected by the condition, but in serious cases, pre-eclampsia can be life-threatening for mother and baby, with organ failure and danger of seizures among mothers.  
-- The child risks poor growth and development due to insufficient placenta function.  
-- The only treatment is delivery of baby and placenta.  
-- Pre-eclampsia is therefore an important cause of premature birth.  
-- Among women who have given birth earlier, the risk is approximately halved. The same applies to women who have had earlier terminations. It is unknown why earlier normal pregnancies protect

against pre-eclampsia in later pregnancies.

Paper: L Trogstad, P Magnus, A Moffett, C Stoltenberg (2008) The effect of recurrent miscarriage and infertility on the risk of pre-eclampsia. *British Journal of Obstetrics and Gynaecology*, 116 (1) : 108 - 113.

Source: Norwegian Institute of Public Health

APA citation: Miscarriage and infertility treatment increase pre-eclampsia risk (2008, December 18) retrieved 22 September 2021 from <https://medicalxpress.com/news/2008-12-miscarriage-infertility-treatment-pre-eclampsia.html>

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