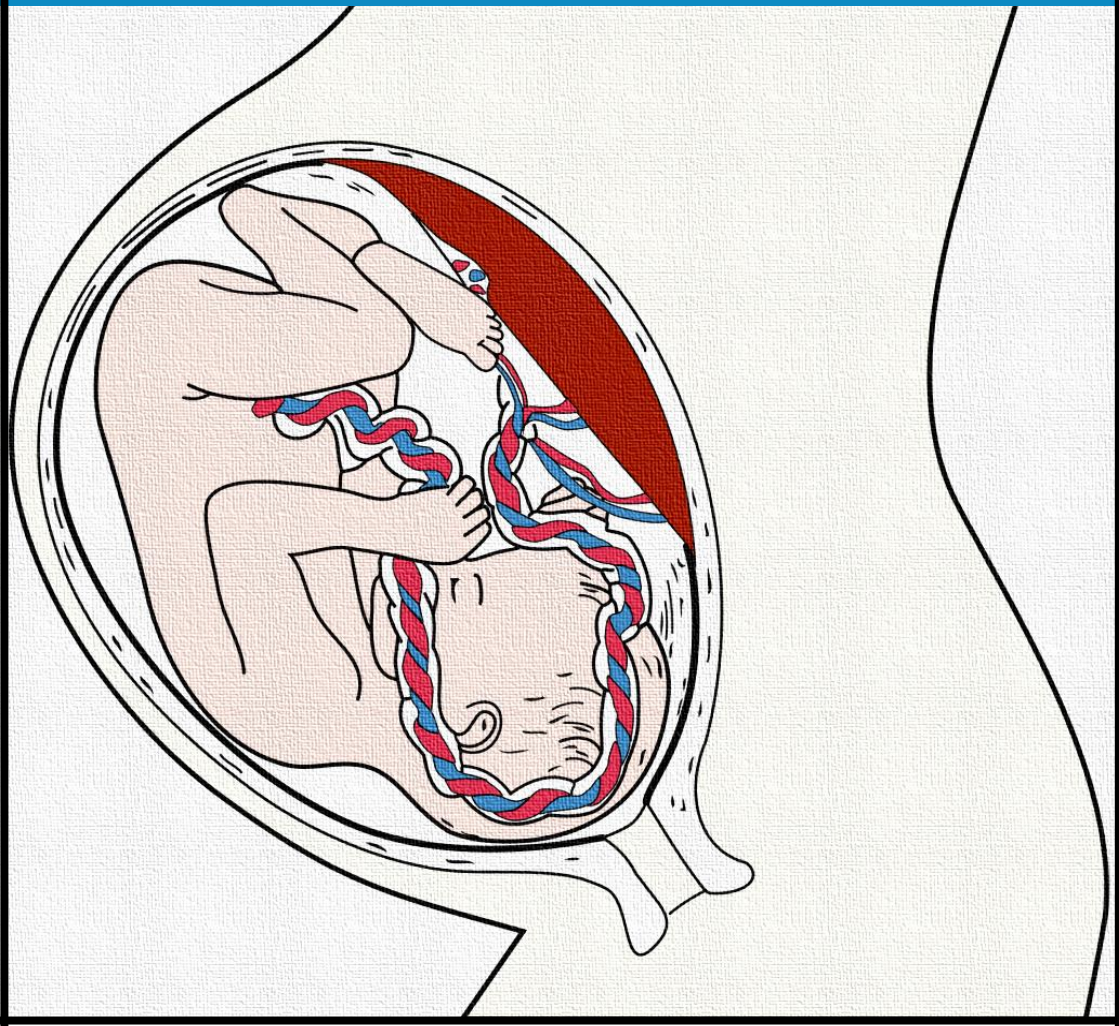
PREECLAMPSIA

Patient Information from the Norwegian Society for Gynecology and Obstetrics



Norsk gynekologisk forening
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Attachment to
Obstetric Guidelines 2020 by
The Norwegian Society for
Gynecology and Obstetrics

WHAT IS PREECLAMPSIA?

Preeclampsia is a pregnancy unique complication. It is defined by new onset, persistently elevated blood pressure during pregnancy (i.e. a systolic blood pressure of at least 140mm Hg or a diastolic blood pressure of at least 90mm Hg) and protein in the urine (proteinuria), both occurring after pregnancy week 20.

The condition is called pregnancy induced hypertension if there is solely new onset hypertension (without proteinuria or other signs of organ affection). Some women have high blood pressure before pregnancy week 20. This is called chronic hypertension. Preeclampsia, pregnancy induced hypertension, and chronic hypertension in pregnancy, are together referred to as “hypertensive complications of pregnancy”.

Preeclampsia and pregnancy induced hypertension share to a large extent risk factors, causes, and complications. Thus, much of the information about preeclampsia in this pamphlet is also valid for pregnancy induced hypertension. Women with chronic hypertension have an increased risk of developing preeclampsia. If so, the patient information is also relevant to these women.

HOW COMMON IS PREECLAMPSIA?

Preeclampsia affects 3-4% of all pregnant women. All together 10% of pregnant women are affected by a hypertensive complication of pregnancy.

IS PREECLAMPSIA DANGEROUS?

Preeclampsia usually occurs late in pregnancy with few or no symptoms. About 1/100 women with preeclampsia develops a more severe form of disease with complications such as eclampsia (fits), cerebral hemorrhage (bleeding in the brain), pulmonary edema (fluid collections in the lungs), kidney failure, liver damage and serious problems with the blood clotting system («disseminated intravascular coagulation»). In Norway, death of a mother or child due to preeclampsia is extremely rare. Deaths and severe morbidity are more common in low-income countries with limited access to antenatal care and health care during and after labour.

WHICH SYMPTOMS ARE ASSOCIATED TO PREECLAMPSIA?

The pregnant woman with preeclampsia usually has no symptoms at the onset of the disease. It is therefore important that she attends regular antenatal check-ups to detect elevated blood pressure or proteinuria. Women with preeclampsia may eventually develop symptoms including visual disturbances (typically flickering lights), headache, nausea, upper abdominal pain, swelling of the feet, hands and face, and malaise. Some pregnant women with preeclampsia and placental insufficiency also feel less fetal movement.

Most of these symptoms can also occur in a normal pregnancy, but if they are new to the woman or if several of the symptoms appear simultaneously, health care personnel should always be consulted. If a woman experiences reduced fetal movement after pregnancy week 20, the obstetric clinic should be called for further counselling. If you are unsure about what is meant by normal fetal movements, please see the web resource at https://kjennliv.no/andre-sprak/ for information in several languages.

HOW DO YOU RECOGNIZE PREECLAMPSIA?

The regular way to diagnose preeclampsia is by measuring the blood pressure and assessing the urine for protein. This is performed at all check-ups in the general antenatal care program. Most women will at the time of preeclampsia diagnosis have no symptoms of preeclampsia.

If a pregnant woman experiences symptoms like serious headache, visual flickering, nausea, upper abdominal pain, rapidly increasing swellings in feet, hands and face, or malaise, and if these symptoms are new onset or occurring together, a doctor or a midwife should be rapidly contacted for an additional check-up.

WHAT IS THE CAUSE OF PREECLAMPSIA?

The cause of preeclampsia is unknown. However, it is known that the cause is linked to altered placental function. It is believed that inflammatory substances from the placenta circulate in the pregnant woman and affect her vessel walls, causing elevated blood pressure and leakage of protein through the vessel walls of the kidney (resulting in proteinuria). If preeclampsia develops early in pregnancy, placental insufficiency is often severe and leads to impaired fetal growth.

HOW IS PREECLAMPSIA TREATED?

As of today, the only definitive treatment of preeclampsia is to remove the placenta, which means that the baby and the placenta must be delivered. Determining optimal timing of delivery can be difficult, as maternal health must be balanced against risks to the fetus.

At term (starting at the onset of the 37th gestational week and lasting until delivery) delivery is recommended for all women with preeclampsia in order to avoid complications. Normally, the woman is admitted to hospital to monitor blood pressure, organ function and fetal wellbeing and the labour is induced.

Before term, women with preeclampsia are also normally admitted to hospital for further assessment. Induction of labour may be indicated also from the 34th gestational week to reduce the risk of maternal complications. The risk of immature lungs in the baby and subsequent admission to the neonatal intensive care unit is lower as gestational age increases.

If preeclampsia develops before 34th gestational week, placental function is often impaired, and it may be better for the baby outside the womb. If the fetal growth is fine and the situation for the mother is stable, the pregnancy will most often continue under close surveillance until planned delivery at gestational week 34-37.

In preeclampsia, the choice of delivery method (induced vaginal delivery or caesarean section) depends on maternal and fetal health, pregnancy length, maturity of the cervix, and whether or not the woman has previously delivered vaginally.

To prevent complications of preeclampsia, such as cerebral hemorrhage in the woman, women with a high blood pressure (e.g. ≥150/100) receive antihypertensive drugs. Some women with severe forms of preeclampsia also receive intravenous magnesium sulphate. Although these medications lower the risk of complications, they do not cure preeclampsia. Delivery of the placenta (and thereby the baby) will cure most women with preeclampsia, often within a short time.

WHO IS AFFFFECTED BY PREECLAMPSIA?

As of today, we cannot exactly predict preeclampsia development. However, we know that the following women are at an increased risk of developing the condition:

- Primiparous women
- Women who had preeclampsia in one or more previous pregnancies
- Women bearing more than one child (e.g. twins, triplets)
- Women who have diabetes mellitus (pre-existing or arising in pregnancy)
- Women who have elevated blood pressure or chronic kidney disease before pregnancy (including women with a kidney transplant)
- Overweight women
- Women more than 40 years old
- Women with certain rare autoimmune diseases (e.g. systemic lupus erythematosus and antiphospholipid syndrome)
- Women whose last childbirth was more than 10 years ago
- In vitro fertilization with oocyte donation

Even if a woman has one or more of the risk factors listed above, she will most likely have a pregnancy without preeclampsia. In general, preeclampsia is not inheritable, but if several close maternal relatives have had preeclampsia the risk is somewhat increased.

IS PREECLAMPSIA PREVENTABLE?

The only definitive way of preventing preeclampsia is to avoid pregnancy altogether. For most women, this is not an option; not if they are healthy, nor if they had preeclampsia in a previous pregnancy. A normal, healthy lifestyle before and during pregnancy with adequate physical activity, a healthy diet, and normal body weight is generally recommended. There is no evidence to support a special diet during pregnancy, but calcium supplements may lower the risk of preeclampsia in women whose dietary calcium intake is low.

Women with chronic disease, including hypertension, should be optimally treated before and during pregnancy. Reducing overweight and being physically active before and throughout pregnancy probably also reduce the risk of preeclampsia.

Women deemed at high risk for preeclampsia during first trimester antenatal visits are recommended oral low dose acetylsalicylic acid (aspirin) each evening from the 12th gestational week to lower the risk of preeclampsia (Obstetric guidelines – 2020, Norwegian Gynaecological Association).

A blood test measuring placental biomarkers during week 11-14 of pregnancy can help select women at high risk for developing preeclampsia before the 37th gestational week. This test is currently (2020) not offered in Norway.

WHAT HAPPENS AFTER DELIVERY IN PREECLAMPSIA?

In most women with preeclampsia, the blood pressure normalizes within days after delivery. Some will need antihypertensive medication for some time after delivery, and a few will need lifelong therapy. Women who had a severe form of preeclampsia may in rare cases suffer from sequela from the complications. Children born in Norway after preeclampsia are most often healthy, but if born extremely prematurely, the prematurity itself can lead to minor or major sequela.

WHAT ABOUT NEXT PREGNANCY AFTER PREECLAMPSIA?

Women who had preeclampsia in a previous pregnancy are at increased risk of preeclampsia in later pregnancies; especially if there was early onset preeclampsia or the weight of the baby was low for the gestational age at delivery. Although women with previous preeclampsia have increased risk of preeclampsia in later pregnancies, most of them will not develop preeclampsia in a subsequent pregnancy.

It is crucial that women with previous preeclampsia receive thorough follow-up in order to detect preeclampsia in a later pregnancy. Regular check-ups at a General Practitioner or community midwife are normally adequate. Treatment with low dose acetyl salisylic acid (aspirin) may prevent preeclampsia, and is normally prescribed to women with prior preeclampsia. The treatment should start from 12th gestational week, and at latest 16th gestational week (Obstetric guidelines – 2020, Norwegian Gynaecological Association).

WHAT ARE THE LONG-TERM EFFECTS OF PREECLAMPSIA?

The babies, as well as the woman herself, have a somewhat increased risk of developing cardiovascular disease later in life after a pregnancy complicated by preeclampsia. There are no quality-assured guidelines in Norway or in most other countries, for follow-up to prevent and detect cardiovascular disease after preeclampsia. A flow chart (next page) illustrates proposed follow-up for cardiovascular disease detection and prevention after preeclampsia in Norway. (Obstetric guidelines – 2020, Norwegian Gynaecological Association).

Primary prevention of cardiovascular disease after a hypertensive disorder of pregnancy

Pregnancy with one of*
-preeclampsia
-gestational hypertension

6-12 weeks postpartum
-cardiovascular risk evaluation - simple
-lifestyle advice

Approx. 1 year postpartum
-cardiovascular risk evaluation - extended
-llifestyle advice
-evaulate need for drug therapy

Every 5th year to 50 years of age
-cardiovascular risk evaluation - simple
-lifestyle advice
-evaulate need for drug therapy

50 years of age
-cardiovascular risk evaluation - extended and NORRISK2[c]
-lifestyle advice
-evaulate need for drug therapy
-further check-ups according to general guidelines[c]

- Lifestyle advice
  - Smoking cessation[a]
  - Physical activity levels according to guidelines[b]
  - Normal weight[c]
  - Healthy diet according to guidelines[b]
- Cardiovascular risk evaluation - simple
  - Body mass index
  - Smoking habits
  - Physical activity levels
  - Blood pressure
- Cardiovascular risk evaluation - extended
  - As «simplel», in addition:
  - Hereditary risk of cardiovascular disease
  - Dyslipidemia (LDL and total-cholesterol)
  - Glucose intolerance (HbA1c)
- Drug therapy
  - According to Norwegian Directorate of Health guidelines[a]

Comments:

- Women with elevated blood pressure (≥140 systolic or ≥90 diastolic) at discharge from hospital postpartum: follow general guidelines for treatment of hypertension[a]. If they later on become normotensive: follow this flow chart (on the left side).
- Women who have or develop cardiovascular disease, hypertension, overweight or dypslipidemia: follow existing guidelines for these conditions.[a,c] As a minimum, these women should recieve follow-up as outlined in the flow-chart (on the left side).

[a] https://helsedirektoratet.no/retningslinjer/forebygging-av-hjerte-og-karsykdom
[b] https://helsedirektoratet.no/publikasjoner/anbefalinger-om-kosthold-ernering-og-fysisk-aktivitet
[c] https://helsedirektoratet.no/retningslinjer/nasjonal-faglig-retningslinje-for-forebygging-utredning-og-behandling-av-overvekt-og-fedme-hos-voksne [c]

Based on currently available evidence, in order to prevent cardiovascular disease, we recommend a healthy lifestyle for women who have had preeclampsia. This advice is in line with guidelines from the Norwegian Directorate of Health:

- Stay physically active: at least 150 minutes a week of physical activity intense enough to cause breathlessness, and at least 60 minutes of strength training
- Reduce sedentary activity
- Eat a varied diet including:
  - increase the amount of plant-based food containing unsaturated fat, including vegetable oils as olive oil and rapeseed oil and nuts, and reduce the intake of food with saturated fat from meat products
  - increase the amount of vegetables, salad, legumes and fruit, and wholemeal flour products, and reduce the intake of fine flour products and sweet cereals.
  - substitute red meat for poultry (chicken, turkey), fish, and shellfish
  - limit the intake of salt, butter, sugar, food, beverages with a high sugar content, and produced meat
- No smoking
- Maintain normal body weight (body mass index 18.5-24.9 kg/m^2)
- Limit alcohol intake

Women are encouraged to discuss their history of previous preeclampsia at routine check-ups at their General Practitioner's, for instance at the 6-12 weeks check-up after delivery. According to the woman's general health, the general practitioner can schedule further follow-up, for instance at the same time as a planned cervical cancer screening. We recommend that every woman with previous preeclampsia or pregnancy induced hypertension have her blood pressure measured at least every 5^{th} year, and more frequently if she sees her general practitioner for other reasons. Detection and treatment of a high blood pressure is important to reduce the risk of serious cardiovascular disease.

The check-ups at the general practitioner's after preeclampsia should include an assessment of total cardiovascular disease risk, please see flow chart:

- family history: close relatives with a history of cardiovascular disease or diabetes
- physical activity levels
- diet
- smoking habits
- concurrent diseases (e.g. diabetes)
- body mass index (BMI) and hip/waist-ratio
- blood lipids
- fasting blood sugar or HbA1c (in order to look for signs of diabetes development)
- blood pressure

We recommend that women with chronic illnesses associated with an increased risk of cardiovascular disease attend check-ups with their General Practitioner or a specialist before/during their next pregnancy as well as later in life. A previously healthy woman who suffered from preeclampsia and who still have elevated blood pressure when discharged from the maternity ward should receive follow-up, normally by her General Practitioner, until her blood pressure has normalized.

Women who continue to have proteinuria after delivery should attend check-ups to exclude renal disease. Women who had gestational diabetes are recommended to check their HbA1c-levels at their General Practitioner's 4 months postpartum because some of these women develop diabetes. Women with pre-existing cardiovascular or renal disease before pregnancy are recommended to continue attending check-ups whether the pregnancy was complicated by preeclampsia or not.

MORE INFORMATION

National guidelines for treatment for and follow-up after preeclampsia

The Norwegian Society for Gynecology and Obstetrics:

Obstetric guidelines – 2020, Norwegian Gynaecological Association: Hypertensive disorders of pregnancy and eclampsia (in Norwegian)

National Institute for Health and Care Excellence (NICE):

NICE Guideline 133 (2019)

International patient societies

Preeclampsia Foundation

Action on Pre-Eclampsia

Silver Star Society- Special Care for Mothers with Medical Complications during Pregnancy

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