Pre-eclampsia is a disorder of pregnancy characterised by high maternal blood pressure, and protein in the urine. It is the most common serious medical complication of pregnancy, affecting around five to eight per cent of all pregnancies in Australia. One to two per cent of cases are severe enough to threaten the lives of both the mother and her unborn child.

The causes of this condition are not fully understood, but genetic factors and the placenta seem to play significant roles. Pre-eclampsia tends to be more common in first, rather than subsequent, pregnancies.

The woman's blood pressure usually returns to normal after the baby is born and the placenta is delivered.

Effects of pre-eclampsia on the mother

Pre-eclampsia may develop at any time during the second half of pregnancy, but commonly develops during the later stages of pregnancy.

Pre-eclampsia most commonly causes high blood pressure and protein in the urine. The seriousness of the disease is decided by the level of the blood pressure.

In its mildest form, protein will show in a urine test and blood pressure may be only slightly raised. However, pre-eclampsia can become very serious.

At its most serious, blood pressure can be very high and other body organs are affected such as the kidneys, liver, brain and blood (in particular, the blood clotting system).

If left untreated, pre-eclampsia can lead to serious problems such as: fitting or convulsions, kidney failure, liver failure, clotting problems or death.

All forms of pre-eclampsia need to be treated.

Who is at risk of pre-eclampsia?

It is difficult to predict who will be affected, but certain women appear to be more at risk than others, including women who:

- are having their first pregnancy
- have pre-existing high blood pressure
- have a family history of the condition
- have diabetes
- are pregnant with more than one baby in the womb.

What are the symptoms of pre-eclampsia?

Pre-eclampsia initially has no obvious symptoms and most women with the condition feel well. That's why regular antenatal checks of your blood pressure are so important.
Early symptoms of pre-eclampsia include:

- a sudden rise in blood pressure (above levels at the start of pregnancy)
- proteinuria (protein in your urine).

Over time, you may also develop fluid retention (oedema). Oedema is a common pregnancy symptom, usually causing swelling of the feet and ankles. However, sudden swelling of the face, hands and feet can be a sign of pre-eclampsia.

Some of the advanced symptoms of pre-eclampsia include:

- dizziness
- headache
- visual disturbances, such as flashing lights
- abdominal pain just below the ribs
- nausea and vomiting.

If left untreated, pre-eclampsia can lead to serious problems such as:

- fitting or convulsions
- kidney failure
- liver failure
- blood clotting problems
- death.

**Effects of pre-eclampsia on the unborn baby**

Around five to eight per cent of pre-term deliveries in Australia are due to pre-eclampsia or its associated complications.

In the womb, the baby is attached to a special organ of pregnancy called the placenta. It is the placenta that provides the baby with oxygen and nutrients from the mother’s blood and gets rid of waste products (such as carbon dioxide) by passing them back to the mother’s blood.

If the mother has pre-eclampsia, high blood pressure can slow down the amount of oxygen and nutrients that are able to get through to the baby. In severe cases, the baby can be gradually starved of oxygen and nutrients, which may affect growth. This growth restriction threatens the life of the baby and it is then necessary for the baby to be born early, even prematurely.

Another serious complication of pre-eclampsia is **placental abruption**, where the placenta separates from the uterine wall and the woman experiences vaginal bleeding and abdominal pain. This is a medical emergency.

**Diagnosis of pre-eclampsia**

Some symptoms of pre-eclampsia, such as fluid retention, are also typical of normal pregnancy, so women may dismiss the early warning signs. This is why regular antenatal blood pressure checks are vital to detecting and diagnosing pre-eclampsia.

Pre-eclampsia is diagnosed when high blood pressure (140/90 mm Hg or higher) occurs together with one or more of the following after 20 weeks pregnancy:

- protein in the urine – determined by analysis of a urine sample
- swelling and fluid in the feet hands and face
- liver function abnormalities – determined by a blood test for liver function
- kidney function abnormalities – determined by a blood test for kidney function
- blood clotting abnormalities – determined by a blood test for platelet count
- onset of headaches or visual disturbances
• fetal growth restriction – determined by fetal ultrasound.

**Treatment of pre-eclampsia**

If you are diagnosed with mild pre-eclampsia your doctor will advise you as to how often you need to have antenatal check-ups. Your blood pressure and urine will be tested regularly, and you will be asked about any symptoms you may have.

If you are diagnosed with severe pre-eclampsia you may need to be admitted to hospital for monitoring and treatment – this may be until your baby is born. Treatment may include:

- rest
- blood pressure medication
- anticonvulsant medication.

At present, the only cure for pre-eclampsia is for the baby to be born and the placenta to be delivered. In some cases this may mean that your labour is induced.

**Current pre-eclampsia research**

Maternal deaths in Australia are very rare; however, pre-eclampsia and its associated complications are responsible for around 15 per cent of maternal deaths.

Medical researchers are looking for ways to predict pre-eclampsia, in order to reduce the risks for mothers and their babies. Since pre-eclampsia tends to run in families, scientists are currently looking for the specific gene(s) which might be responsible for pre-eclampsia. If discovered, it is hoped there will eventually be a pre-pregnancy test for the condition.

**Where to get help**

- Your GP (doctor)
- Midwife
- Obstetrician

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