



## **Pre-Eclampsia – the silent killer**

Awareness of Pre Eclampsia, an illness which is the most common serious medical disorder of pregnancy, affects up to 1 in 10 mothers, however little is known about the disorder.

To provide information and support to families who have suffered from Pre-Eclampsia, the Australian Action on Pre-Eclampsia (AAPEC) has established a **National Pre Eclampsia Awareness Week** from **19-25 August 2007**, to raise awareness and educate mothers as well as health professionals.

With some 200 babies dying because of Pre Eclampsia in Australia every year, pregnant women are urged not to miss their antenatal appointments, and to visit their doctor or midwife if they are concerned about their pregnancy.

According to Professor Shaun Brennecke, Director of Perinatal Medicine, Royal Women's Hospital, Melbourne, high blood pressure, protein in the urine, persistent headaches, blurred vision and sudden swelling of face, hands and feet can be signs and symptoms. Pre Eclampsia can also compromise the health of the foetus. It can lead to convulsions – Eclampsia - in the mother.

‘It more often occurs in first pregnancies, however, occasionally, women who have had Pre Eclampsia find that it recurs in one or more subsequent pregnancies’ says Professor Brennecke.

‘Every woman should be considered at risk in her first pregnancy, although the risk is greater for those with a strong family history of the condition’.

The precise cause of Pre Eclampsia is unknown. However, it is thought that genetic factors are involved, given women whose mothers and/or sisters have suffered Pre Eclampsia are at increased risk of the disease themselves.

Worldwide, over 50,000 mothers die each year from Eclampsia. The only cure for Pre Eclampsia is delivery of the baby and with it the placenta. Such action is usually in the best interests of both mother and baby; however, if it occurs early in the second half of pregnancy, while delivery solves the mother's problems, the baby can risk complications through extreme prematurity.

**National Pre Eclampsia Awareness Week** is organized by The Australian Action on Pre-eclampsia Inc, a voluntary group comprising many mothers who have suffered from this pregnancy complication. To build awareness during the Week they have produced a community service announcement to be launched during the week.

**What** Pre Eclampsia Awareness Week  
**When** 19-25 August 2007  
**To Purchase** 'Pre-Eclampsia - The Australian Experience' visit [www.aapec.org.au](http://www.aapec.org.au)  
**Information:** [www.aapec.org.au](http://www.aapec.org.au)

**For an interview with Professor Shaun Brennecke or one of the AAPEC members, (women who have had this pregnancy complication in your area) please contact Julie Morgan at JMM Communications 03 9696 5060**



### **Pre Eclampsia Frequently Asked Questions**

#### **Pre Eclampsia. What is it?**

Pre Eclampsia is an illness, which only occurs in pregnancy. Indeed, it is the most common serious medical disorder of human pregnancy. It is sometimes referred to as pre-eclamptic toxemia (abbreviated to PET), and many years ago it was also known as "kidney fits". Pre Eclampsia can affect both the mother and her unborn baby. It usually arises during the second half of pregnancy, and can even occur some days after delivery. In the mother, it can cause several problems of which she may be unaware - such as high blood pressure (hypertension), leakage of protein into the urine (proteinuria), thinning of the blood (coagulopathy) and liver dysfunction. Occasionally, Pre Eclampsia can lead to convulsions (fits), a serious complication known as eclampsia. Also, when a pregnancy is complicated by PE, the baby may grow more slowly than normal in the womb or suffer a potentially harmful oxygen deficiency.

#### **How common is Pre Eclampsia?**

Pre Eclampsia can affect as many as 10% of pregnancies, which makes it one of the most common pregnancy complications. It occurs more often in first pregnancies. Occasionally, women who have suffered it once find that it recurs in one or more subsequent pregnancies, and rarely a woman who has not experienced it in earlier pregnancies may develop it in a subsequent pregnancy.

## **How dangerous is Pre Eclampsia?**

Pre Eclampsia is usually mild, but in 10% of cases (i.e. 1% of pregnancies), it is so severe that it represents a serious threat to the life of the baby and even the mother. Every year in Australia some 200 babies die because of Pre Eclampsia, many of these as a consequence of premature delivery rather than the disease itself, as the only cure for Pre Eclampsia is delivery, irrespective of the stage of the pregnancy. Although deaths of mothers during pregnancy are rare events, Pre Eclampsia and its complications are among the most common causes of such tragedies. Worldwide, over 50,000 mothers die each year just from eclampsia, let alone the other complications of Pre Eclampsia.

## **Can Pre Eclampsia be predicted?**

It is impossible to predict with certainty who will suffer from Pre Eclampsia. Every woman should be considered at risk in her first pregnancy, although the risk is greater for those with a strong family history of the condition. Younger mothers (teenagers) and older mothers (those over 35 years of age) may also be at increased risk in their first pregnancies. If Pre Eclampsia occurs in a first pregnancy, then it may on occasions recur in subsequent pregnancies, particularly if a woman is carrying a multiple pregnancy, or has one of several chronic medical disorders, such as hypertension, kidney disease, diabetes, or lupus and other similar autoantibody diseases.

## **What causes Pre Eclampsia?**

The precise cause of Pre Eclampsia is unknown. However, genetic factors are probably involved, given women whose mothers and/or sisters have suffered Pre Eclampsia are at increased risk of the disease themselves.

There is good evidence that the placenta is centrally involved in the development of Pre Eclampsia. The placenta is a specialised organ which forms in the uterus during pregnancy. It receives blood from the mother and transfers oxygen and nutrition from the mother across to the baby's circulation, thereby helping the baby to grow and develop.

It seems that in Pre Eclampsia, the placenta does not receive sufficient maternal blood for its requirements, which apparently results in a malfunction within the placental tissue. This malfunction produces factors which pass from the placenta back into the mother's circulation. These factors damage the mother's blood vessels, the result of which is increasing blood pressure. As well, kidney function is disturbed and blood proteins leak from the mother's circulation through the kidney into the urine. As Pre Eclampsia worsens, other organs are affected, including the mother's liver, lungs, brain, heart and blood clotting system. Dangerous complications such as eclampsia (convulsions), cerebral haemorrhage (stroke), pulmonary oedema (fluid in the lungs from heart failure), kidney failure, liver damage and thinning of the blood (disseminated intravascularcoagulation) can occur in serious cases. However, these complications are fortunately rare.

## **What are the symptoms of Pre Eclampsia?**

Unfortunately, Pre Eclampsia does not provide a susceptible woman with early warning symptoms or signs. The development of Pre Eclampsia can best be detected by routine screening tests carried out at antenatal check-ups. A combination of rising blood pressure and protein in the urine suggest Pre Eclampsia may be developing, although there are some other medical disorders that can give a similar picture. As yet, there is no precise diagnostic test for Pre Eclampsia. However, if a previously healthy pregnant woman develops high blood pressure and proteinuria

in the latter half of her pregnancy, then the diagnosis is almost always Pre Eclampsia. Some swelling (oedema) is common in normal pregnancy, but excessive swelling which also involves the face can occur in Pre Eclampsia. In severe Pre Eclampsia, symptoms can appear, including severe headaches, visual disturbances (such as flashing lights), vomiting and pain in the upper abdomen. While such symptoms may have other less dangerous causes, they should never be ignored during pregnancy.

### **Can Pre Eclampsia be cured?**

The only cure for Pre Eclampsia is delivery of the baby and with it the placenta, which is the seat of the problem. Such action is usually in the best interests of both mother and baby. However, if Pre Eclampsia occurs early in the second half of pregnancy, while delivery solves the mother's problems, it puts the baby at risk of complications of extreme prematurity.

### **How is Pre Eclampsia treated?**

Once a woman with Pre Eclampsia has developed persistent hypertension and significant proteinuria, the disease is considered to be severe and hospitalisation is required for careful monitoring of maternal and fetal welfare, stabilisation of various complications of Pre Eclampsia and

preparation for delivery. Even though some features of pre-clampsia can be temporarily improved by treatments, the disease itself is progressive (sometimes slowly, but sometimes rapidly) until delivery. Blood pressure lowering drugs may often be necessary to reduce the risks of complications such as heart failure and stroke. Anticonvulsant drugs such as magnesium may also be required to prevent or treat eclamptic fits. Because of the progressive nature of Pre Eclampsia, once admitted, women are not usually discharged until after delivery.

### **How does Pre Eclampsia affect the baby?**

The relative deficiency in the blood supply from the mother to the placenta limits the baby's supply of nutrients and oxygen, which may lead to reduced growth of the baby (intrauterine growth restriction) and even oxygen deprivation. Therefore, once Pre Eclampsia is present, close monitoring of fetal welfare is important to ensure such problems do not become serious. The timing of delivery in cases of Pre Eclampsia which arise early in the second half of pregnancy can be particularly difficult, because a very premature fetus may be severely affected by Pre Eclampsia, but on the other hand, cannot be certain of survival outside the womb either.

### **What is the HELLP syndrome?**

HELLP syndrome is the medical name given to a serious complication of Pre Eclampsia involving a combination of liver and blood disorders. HELLP stands for H (haemolysis - red blood cell damage); EL (elevated liver enzymes - indicating liver damage); and LP (low platelets in the blood leading to a bleeding tendency). HELLP syndrome may be associated with other signs of Pre Eclampsia, such as high blood pressure, protein in the urine and swelling of the hands, feet or face. However, this is not always the case, and this may make its diagnosis more difficult. Women with HELLP syndrome often complain of a pain in the upper abdomen below the ribs, which is indicative of a tender liver. There may also be heartburn, vomiting and headache. The upper abdominal pain of the HELLP syndrome can be very severe, and is not relieved by simple remedies such as antacids, which would be the case if heartburn, for example, was the cause of the pain. HELLP syndrome symptoms can often be confused with other problems such as gallstones (cholelithiasis), inflammation of the gall bladder (cholecystitis) or liver inflammation (hepatitis).

As with the more typical cases of Pre Eclampsia, HELLP syndrome can arise at any stage during the second half of pregnancy.

The diagnosis of HELLP syndrome can be made by blood tests which examine liver enzymes, red blood cells and platelets. As with typical Pre Eclampsia, delivery is required for cure of the HELLP syndrome, irrespective of the stage of the pregnancy and maturity of the baby. Because the HELLP syndrome can be associated with a bleeding tendency secondary to a deficiency of platelets, it may be necessary to administer platelet transfusions. This may be particularly important before undertaking any surgery, such as a Caesarean section

### **Are there any long-term effects from Pre Eclampsia?**

For most mothers, delivery will reverse all the effects of Pre Eclampsia. Unfortunately, occasionally some organ damage (for example to the kidney) remains after the disease itself is cured. Although women who have suffered Pre Eclampsia during pregnancy may develop high blood pressure later in life, this is thought to be caused by a genetic tendency to high blood pressure rather than to have been caused by the Pre Eclampsia itself. Unless babies have suffered severe nutrient starvation or oxygen deprivation in the womb or have been troubled by complications of pre-maturity, it is currently thought that babies born of mothers who have suffered Pre Eclampsia do not in themselves develop long-term health problems.

### **What happens in the next pregnancy?**

Fortunately, most mothers who have suffered even severe forms of Pre Eclampsia in their first pregnancies have perfectly normal subsequent pregnancies. Nevertheless, there is a small risk that the condition will recur, and so women who have suffered Pre Eclampsia in a first pregnancy should be monitored more closely and more frequently than usual in subsequent pregnancies. If Pre Eclampsia does recur, it usually does so in a milder form and at a later time in the pregnancy than on the first occasion.

However, women who have suffered the HELLP syndrome form of Pre Eclampsia do seem to have a higher recurrence risk in subsequent pregnancies, with some studies suggesting as many as 25% of these women suffering such recurrences.

Furthermore, women with medical problems such as chronic hypertension, renal disease, diabetes, lupus and other autoantibody problems, and certain forms of inherited blood clotting disorders may also be at particular risk of recurrent Pre Eclampsia in their pregnancies.

### **Can Pre Eclampsia be prevented?**

Pre Eclampsia does not seem to be a disease which can be prevented by regulating lifestyle factors such as what a woman eats, whether or not she smokes or drinks, how hard she works, how much exercise or rest she undertakes, how anxious or relaxed she is, and so on. However, there is some evidence which suggests that small doses of aspirin may prevent or delay the onset of Pre Eclampsia in certain mothers at particular risk of the disease. This could be because small doses of aspirin may prevent clotting in the placenta and thereby improve blood flow through the placenta.

Moreover, there is also some evidence to suggest that calcium supplements may decrease the risk of Pre Eclampsia, especially in mothers living in areas deficient in dietary calcium. Calcium may work under these circumstances by helping blood vessels to relax, thereby preventing hypertension.

### **What can be done to reduce the risk of Pre Eclampsia or its recurrence?**

The best way to minimise the harm that Pre Eclampsia may cause in a pregnancy is to regularly attend for antenatal check-ups, so that the chance of detecting Pre Eclampsia in its earliest stages is optimised. If a woman is at particular risk of Pre Eclampsia, then it would be wise for her to attend a specialist obstetrician or maternity hospital with skill and experience in the management of Pre Eclampsia and its complications. Such women especially should consult with their doctors early in pregnancy, or even before pregnancy, to plan their antenatal care. All women should ensure that their blood pressure is checked regularly during pregnancy and that their urine is examined for the presence of protein. While small amounts of protein in urine specimens may be normal during pregnancy, amounts greater than a "trace" should not be ignored and should lead to further investigations to determine the cause of the proteinuria. Besides Pre Eclampsia, attention may be drawn by this simple antenatal test to other pregnancy problems such as urinary tract infections.

Women should always report worrying signs or symptoms to their doctor during pregnancy. Often there may turn out to be no cause for alarm, but it is a simple matter to have a blood pressure measurement, a urine check, a blood test or other investigations or examinations to be sure that Pre Eclampsia or some other pregnancy complication is not the cause of the symptoms or signs of concern.

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