HEART DISEASE & PREGNANCY

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HIGH BLOOD PRESSURE

What is hypertension and how is it measured?

If you have "hypertension", it means your blood pressure is high. Blood pressure is measured by a cuff placed on your upper arm, and the measurements include systolic and diastolic values. The diastolic pressure is the "bottom number" of the blood pressure reading and reflects the pressure in your arteries when the heart is at rest and filling. If the diastolic blood pressure is consistently higher than 90 mm Hg, it means that you likely have hypertension. The systolic value is the "top number" and reflects the amount of pressure your heart has to generate to pump blood to the rest of your body. If it is greater than 140 mm Hg, that is also abnormal. If both values are high, it usually means you have hypertension. Sometimes the systolic value is temporarily high because of stress, anxiety or pain, and therefore is a less reliable way of diagnosing blood pressure. That's why, in pregnancy, we focus more on the diastolic value: Hypertension is diagnosed if the diastolic pressure is higher than 90 mm Hg on several readings.

How should hypertension be treated BEFORE pregnancy?

Some women have hypertension even before becoming pregnant, which is known as chronic hypertension. Chronic hypertension is most commonly due to genetics (runs in your family), increased age, lifestyle (for instance a diet that is high in salt and fat, being overweight, smoking), or no reason that can be identified. Sometimes, women also have a medical condition such as diabetes, kidney disease or heart disease, which makes lowering blood pressure especially important in order to prevent long-term complications like heart attack or stroke.

Before becoming pregnant: If you have chronic hypertension before becoming pregnant, changes in diet, weight loss, and increasing physical activity can be helpful ways of controlling blood pressure. Please check with your doctor/specialist first to make sure it is safe for you to start exercising (exercise is usually safe for people with heart disease, although there are some exceptions), especially if you have heart disease.

If you are already on blood pressure medication, you should review the safety of your drug(s) with your doctor. Some medications are considered safe in pregnancy including: labetalol, methyldopa, nifedipine, and hydralazine. Other drugs are not safe in pregnancy including the classes of drugs known as angiotensin converting enzyme inhibitors (also known as ACE inhibitors) and angiotensin-receptor blockers (also known as ARBs). These drugs *may* need to be switched to safer medications before you become pregnant so you should discuss this with your specialist first. Do not stop medications without first checking with your doctor! The MOTHERISK website is an excellent resource. (http://www.motherisk.org)

Blood pressure control before pregnancy is very important. Women who have chronic hypertension can go usually through pregnancy safely, but may need a referral to a specialist for management.

How should hypertension be treated DURING pregnancy?

Interestingly, high blood pressure often improves in the first half of pregnancy. Therefore if you have hypertension before pregnancy, the dose of your medication may actually need to be decreased. However, blood pressure often rises in the third trimester and women who have chronic hypertension before pregnancy are at an increased risk of developing preeclampsia (see below). We do not yet know what the optimal blood pressure in pregnancy is, but do know that we should avoid the extremes of blood pressure so that it is not too high or too low. The target blood pressure in pregnancy is broad (anywhere from 80-105 mm Hg diastolic), and will depend on whether you have other medical conditions. You should have your blood pressure checked regularly in pregnancy.

If you have severe hypertension in pregnancy, usually defined as a systolic pressure greater than 160 mm Hg, your baby is at risk of growth restriction (being small). There is also a small risk of placental abruption (the placenta separates prematurely from the uterus). Also, if you develop preeclampsia (see below), you may have to deliver prematurely. Your doctor will need to monitor the baby's growth more closely. Treating severe hypertension can be helpful in preventing these problems.

What is Preeclampsia?

Some women develop high blood pressure only in pregnancy, and that is known as "gestational hypertension". Some of these women will also develop preeclampsia (previously known as "toxemia").

Gestational Hypertension

Women with gestational hypertension develop high blood pressure *because* of the pregnancy. This type of hypertension can start anytime after 20 weeks gestation, is commonly mild, tends to occur close to the end of pregnancy, and resolves after pregnancy. You may or may not need medication to treat it.

Preeclampsia

This type of hypertension also only occurs in pregnancy, starting anytime after 20 weeks gestation (but usually towards the end of pregnancy), and is a much more *serious* medical condition. The cause of preeclampsia is unknown, but it is thought to be related to changes in the placenta. Some risk factors include: first pregnancy, a history of preeclampsia in your mother or sister, if you have had preeclampsia in a previous pregnancy, or they have certain medical conditions like chronic hypertension, diabetes, or kidney failure. Preeclampsia is a process that can make blood pressure very high, can cause swelling to develop very quickly, and can affect multiple organs including the liver, the kidneys, the lungs, and the blood system. In rare cases, it can lead to seizure or stroke.

We can diagnose preeclampsia when blood pressure starts to rise, if there is protein in the urine on dipstick. You should seek medical attention if you start having severe headaches, swelling that develops very quickly (especially in your hands and feet), pain in your upper abdomen, or if you notice that the baby isn't moving as much as before.

The treatment includes close monitoring of both you and your baby (often in hospital), keeping your blood pressure under control, and checking your lab tests frequently. However, the process can only really be stopped by delivery, often needed before the due date. Delivering prematurely is a serious step, but may be necessary if either you or the baby is not well.

How is hypertension treated after pregnancy?

If you had chronic hypertension, this will likely continue after the delivery. Medications that are considered safe during breastfeeding include labetalol, methyldopa, nifedipine, hydralazine.

If you have developed preeclampsia, you may have had to stay in hospital longer than usual to be sure everything improves. You may still need to take blood pressure medication when you are discharged home. After being discharged you must see a doctor regularly to check your blood pressure. Hypertension from preeclampsia may take weeks (in some cases months) to resolve completely.

Research has shown that women who develop gestational hypertension or preeclampsia have a 30% risk of developing chronic hypertension in the next 10 years. It is important that you see your family doctor at least yearly to check your blood pressure, and that you follow a healthy lifestyle to try to reduce that risk as much as you can.